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Introduction

The mission of the National Institute on Disability and Rehabilitation Research (NIDRR) is to generate, disseminate, and promote knowledge that will improve the lives of persons with disabilities in their communities. 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 2006 fiscal year.

The contextual paradigm of disability and rehabilitation research, as 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. The new paradigm of disability 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 for 2005, NIDRR-funded research activities fall within three contextual domains: Research and Development, Capacity Building, and Knowledge Translation. Within these arenas, NIDRR’s research is conducted via a network of individual research projects and centers of excellence throughout the country. Most NIDRR grantees are universities or providers of rehabilitation or related services. NIDRR’s largest funding programs are the Rehabilitation Research and Training Centers (RRTCs), the Model Systems, and Rehabilitation Engineering Research Centers (RERCs). NIDRR also makes awards for information dissemination and utilization centers and projects, field initiated projects, research and development projects, advanced research training projects, Mary E. Switzer fellowships and NIDRR scholars, small business innovative research, and model systems of care. NIDRR also administers the Disability and Business Technical Assistance Centers.

Disability and Rehabilitation Research Projects

The Disability and Rehabilitation Research Projects (DRRP) program allows for projects with special emphasis on research, demonstrations, training, dissemination, utilization, and technical assistance. Projects may include combinations of these activities. True to the mission of NIDRR, 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.

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; participate in collaborative research with other Model System centers; and coordinate research efforts with other related grant recipients. In 2006, NIDRR funded a coordinating knowledge translation center for all three Model System types.

**Advanced Rehabilitation Research Training Projects**

The Advanced Rehabilitation Research Training (ARRT) Program (formerly known as the Research Training Grants Program) expands the capacity of the field of rehabilitation research by providing advanced training opportunities. These projects provide rehabilitation research training for persons with clinical or other experience, who may be lacking certain formal research training. Grants are made to institutions to recruit qualified persons with doctoral or similar advanced degrees with clinical, management, or basic science research experience, and prepare them to conduct independent research on problems related to disability and rehabilitation. This research training may integrate disciplines, teach research methodology in the environmental or new paradigm context, and promote the capacity for Disability Studies and rehabilitation science. These training programs must operate in interdisciplinary environments and provide training in rigorous scientific methods.

**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.

**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. The RERCs’ work in a rehabilitation setting provides an environment for cooperative research and the transfer of rehabilitation technologies into rehabilitation practice. Involved at both the individual and systems levels, RERCs seek to find and evaluate the newest technologies, 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 improve the distribution of technological devices and equipment to individuals who need them.
Fellowships

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 of doctorate or comparable academic status, who have had seven or more years of experience relevant to rehabilitation research. Merit Fellowships are given to persons with rehabilitation research experience, but who do not meet the qualifications for Distinguished, usually because they are in earlier stages of their careers. Fellows work for one year on an independent research project of their design.

NIDRR Scholars

The Scholars program attempts to build research capacity by recruiting undergraduates with disabilities to work in NIDRR-funded Centers and projects and introduces them to disability and rehabilitation research issues. Scholars gain work experience and participating centers receive a small stipend. This program is an innovative approach aimed at generating interest in research careers for persons with disabilities.

ADA Technical Assistance Projects

NIDRR administers a network of grantees to provide information, training, and technical assistance to businesses and agencies with responsibilities under the Americans with Disabilities Act (ADA). Ten regional Disability and Business Technical Assistance Centers (DBTACs) are funded to provide information and referral, technical assistance, public awareness, and training on all aspects of the ADA. Several National Training Projects target particular groups, organizations, or subject areas for ADA training and the ADA Technical Assistance coordinator contract assists all of the grantees with their activities.

Small Business Innovative Research

Small Business Innovative 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.

NIDRR Contracts

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

NARIC and the NIDRR Program Directory

The Program Directory is compiled by the National Rehabilitation Information Center (NARIC). NARIC functions as NIDRR’s library, providing the rehabilitation community with information and referral services to help locate pertinent research related to specific areas of expertise. Since 1977, NARIC has been the primary source of rehabilitation and disability information generated by NIDRR funds, with special priority services to NIDRR staff and NIDRR-funded project staff.
NARIC also produces REHABDATA, an index of disability and rehabilitation literature produced by NIDRR grantees as well as commercial publishers. Copies of NIDRR-supported research products are received by NARIC and added to the reference collection and REHABDATA database. Information about holdings are 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 November 9, 2005. This directory may include projects that have passed the indicated extension date.

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.

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Rehabilitation Research and Training Centers (RRTCs)  
Arkansas  

Rehabilitation Research and Training Center on Improving Vocational Rehabilitation Services for Individuals Who Are Deaf or Hard of Hearing  

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Project Number: H133B010501  
Start Date: October 01, 2001  
Length: 60 months  
NIDRR Officer: Richard Johnson, EdD  
NIDRR Funding: FY 01 $600,000; FY 02 $600,000; FY 03 $600,000; FY 04 $600,000; FY 05 $600,000; FY 06 $0 (No-cost extension through 9/30/2007)  
Abstract: This program conducts coordinated research and training to enhance the rehabilitation outcomes of persons who are deaf or hard of hearing who are served by VR and related employment programs. When appropriate, the unique needs of specific subgroups within this diverse and heterogeneous population are investigated. The ultimate goal of these efforts is to improve the capacity of the VR system and related programs to address the career preparation, entry, maintenance, and advancement, as well as the community living needs, of the target population. Research activities include: investigating the impact of changes in federal employment and rehabilitation legislation and policy on the delivery of services to the target population; investigating the impact of business practices that contribute to accessible work and workplace supports to enhance the employment of the target population; and identifying, developing, and assessing rehabilitation-related innovations that enhance employment and community living outcomes of the target population.
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
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Project Number: H133B030501
Start Date: December 01, 2002
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 03 $600,000; FY 04 $600,000; FY 05 $600,000; FY 06 $600,000

Abstract: The research conducted by this project improves the employment status of people with disabilities in the rural U.S., enhances their ability to live independently, and advances the science of rural disability studies. Four core areas comprise eleven research projects in rural employment and economic development; rural health and disability; rural community transportation and independent living; and rural policy foundations. Projects include: (1) develop scientific methods to measure how rural environments influence an individual’s community participation; (2) collaborate with very small rural businesses to employ people with disabilities; (3) improve rural transportation options; and (4) create programs to prevent or improve secondary conditions. Other projects explore ways for new partners, including faith-based organizations, to be involved in improving rural services. A training program disseminates research findings, trains students, and sparks the creative engagement of policymakers and social advocates. The innovative STATE (Same-Time Availability to Everyone) policy requires that the project provide standard print publications to the general public only when at least two alternative formats are also available to individuals with disabilities.
Rehabilitation Research and Training Centers (RRTCs)  
New York

Rehabilitation Research and Training Center on Employment Policy and Individuals with Disabilities

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Principal Investigator: Susanne Bruyère, PhD; Richard Burkhauser, PhD; David Stapleton, PhD  
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Project Number: H133B040013  
Start Date: December 01, 2004  
Length: 60 months  
NIDRR Officer: Edna Johnson  
NIDRR Funding: FY 04 $700,000; FY 05 $700,000; FY 06 $700,000

Abstract: The ultimate goal of the Employment Policy Rehabilitation Research and Training Center (EP-RRTC) is to increase the employment and economic self-sufficiency of people with disabilities and improve the quality of their lives. The immediate purpose is to contribute to the success of the transition from caretaker policies to economic self-sufficiency policies. Specific goals and objectives are: completion of new research activities that will generate knowledge about the effects of past disability policy and other factors on economic self-sufficiency, the impact of current and future initiatives designed to promote economic self-sufficiency, and/or the likely success of new policy options; completion of 20 publishable papers and companion policy briefs; training of consumers via 12 or more Washington-based Disability Policy Forums; training of 5 graduate students; a third-year conference; a conference volume; and technical assistance to consumers on policy research and evaluation methods and data. Short-term project outcomes include: annual interpretation of updated employment rate trends; a synthesis and critique of many relevant evaluation efforts; three or more significant policy options and ideas for next steps; reviews of three or more significant policy or program successes; detailed information on interactions between numerous programs and policies, and how they discourage employment; estimates of impacts of two public policies on employment and earnings for state VR clients; estimates of the impact of the ADA on both employer provision of accommodations and job retention after disability onset; estimates of the return to higher education for those with profound hearing loss; and two additional analyses of the role that human capital plays in determining economic self-sufficiency for adults with disabilities. Intermediate outcomes include use of this information in the policy improvement effort, and long-term outcomes include policy changes that increase the economic self-sufficiency of people with disabilities.
Rehabilitation Research and Training Centers (RRTCs)
New York

Rehabilitation Research and Training Center on Improving Employment Outcomes

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www.essrtc.org

Principal Investigator: John O’Neill, PhD 212/772-5188
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Project Number: H133B040014
Start Date: October 01, 2004
Length: 60 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 04 $699,981; FY 05 $699,973; FY 06 $699,990

Abstract: This Employment Service Systems Research and Training Center develops, enhances, and utilizes partnerships to improve the quality of employment services, opportunities, and outcomes for people with disabilities. Five research projects have been designed to meet this goal and examine partnerships across public agencies, between not for-profit and public agencies, and between rehabilitation agencies and businesses. The Consortia for Employment Success (CES) creates and evaluates fully integrated disability service provider networks in three local communities. The CES increases access for people with disabilities to both effective, comprehensive placement services, and a well-managed and centralized employer network that will increase employment and career advancement opportunities for persons with disabilities. The Workplace Socialization Model (WPS) supplements the CES Model by focusing on job enhancement and retention. The WPS aims to extend the job tenure of employees with a disability and other positive work outcomes including the employee’s job satisfaction, organizational commitment, and level of work culture competency, as well as the employer’s satisfaction with the employee’s job performance. Identification of “Good Practices” Within Vocational Rehabilitation is designed to identify a variety of good practices currently being used in the State-Federal VR system across the U.S. that facilitate consumer access to services and enhance employment outcomes. Designing and Testing Comprehensive Employment Practice and Policy Initiatives within a Vocational Rehabilitation State Agency develops and tests a model that leads to enhanced employment outcomes. The model includes the “human capital” characteristics of persons with disabilities as well as what vocational rehabilitation delivery systems add to these human capital factors to improve outcomes. A Study of Disability Navigators in One-Stops collects data on Workforce Investment Act regions in which Navigators operate and compares levels of customer satisfaction and employment outcomes between regions that use Navigators and regions that have no such positions.
Rehabilitation Research and Training Centers (RRTCs)
Ohio

Rehabilitation Research and Training Center on Substance Abuse, Disability, and Employment

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www.med.wright.edu/citar/sardi/rrtc_about.html

Principal Investigator: Dennis C. Moore, EdD
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Project Number: H133B040012
Start Date: December 01, 2004
Length: 60 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 04 $699,998; FY 05 $699,983; FY 06 $699,981

Abstract: This RRTC 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 (IPS), 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. Utilization of the IPS model with the study populations holds tremendous potential or impacting services delivery for consumers who experience very low rates of employment. (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 RI, the roles of policies, statutes, guidelines, and VR service delivery practices will be 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 VR unsuccessful closures and their counselors, and the study has particular sensitivity to the role of “hidden” substance abuse among unsuccessful closures.
Rehabilitation Research and Training Center on Workplace Supports and Job Retention

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Project Number: H133B040011
Start Date: November 01, 2004
Length: 60 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 04 $699,981; FY 05 $699,973; FY 06 $699,990
Abstract: The purpose of the RRTC on Workplace Supports and Job Retention is to study those supports which are most effective in the workplace for assisting persons with disabilities to maintain employment and advance their careers. Research includes two long-term prospective randomized experimental control research projects: (1) determining the efficacy of public/private partnerships, and (2) determining the efficacy of business mentoring and career based interventions with college students with disabilities. The RRTC is partnered with Manpower, Inc., several community rehabilitation programs, and the VCU Business Roundtable. Additional projects look at disability management practices, extended employment supports, job discrimination in employment retention, benefits planning and assistance, and workplace supports. These studies are done in conjunction with Equal Employment Opportunity Commission, the Society of Human Resource Professionals, and the U.S. Chamber of Commerce.
**Disability and Rehabilitation Research Projects**  
Arkansas

**Improve the Employment Outcomes for the Low Functioning Deaf (LFD) Population**

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**Principal Investigator:** Douglas Watson, PhD  
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**Project Number:** H133A060044  
**Start Date:** January 01, 2007  
**Length:** 36 months  
**NIDRR Officer:** Richard Johnson, EdD  
**NIDRR Funding:** FY 06 $450,000

**Abstract:** This project conducts a program of theory-driven research to improve employment outcomes for the Low Functioning Deaf (LFD) population. The goals of the project are to: (1) develop a national profile of the state of the knowledge for services to persons who are LFD; (2) develop consensus on functional definitions of the target population using a concept mapping approach with knowledgeable providers who serve the population; (3) develop and validate a psychometrically sound tool to assess the functional characteristics of persons identified as LFD and to be used by partner states to develop a descriptive profile of the population; (4) replicate a systems level analysis of service delivery options available to the target population with key state partners; (5) assess barriers exhibited by LFD and pre-employment skills needed to enter the workforce; and (6) focus on best practices in job coaching to enhance workplace integration and job tenure. The success of the research and dissemination efforts is insured by inclusion of five state rehabilitation partners including providers, policy makers, and administrators from vocational rehabilitation, community service agencies, and school and community-based transition programs. The project makes use of long-established networks and collaboration with key federally-funded partners to facilitate dissemination of research-based knowledge to the field, leading to improvements in services for persons who are LFD.
Disability and Rehabilitation Research Projects
Mississippi

Persons Aging with Hearing and Vision Loss

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Project Number: H133A020701
Start Date: November 01, 2002
Length: 60 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 02 $500,000; FY 03 $500,000; FY 04 $500,000; FY 05 $500,000; FY 06 $500,000

Abstract: This project investigates strategies to improve outcomes for persons who are over 55 with hearing and vision loss, especially those who have a sensory disability and acquire a second as a result of the aging process. The project conducts a variety of research, development, training, and dissemination activities and evaluates both technology and model service delivery approaches for improving employment and community integration options. A Participatory Action Research (PAR) Team provides guidance and direction. The project solicits direct input from key stakeholders as part of the ongoing planning, development, and implementation of research activities. These activities include the use of focus groups, a panel of experts, and a study sample that includes a nationally representative sample of older individuals who are blind or visually impaired and losing their hearing, and those who are deaf or hard of hearing and losing their vision. This is a collaborative project of the Rehabilitation Research and Training Center on Blindness and Low Vision at Mississippi State University, San Diego State University, and the Helen Keller National Center for Deaf-Blind Youths and Adults.
Disability and Rehabilitation Research Projects
New York

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

Abstract: 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. 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. 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.
LET’S ROLL: Understanding and Responding to the Needs of People with Disabilities and the Ticket-To-Work Program

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Project Number: H133G030165
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 03 $150,000; FY 04 $150,000; FY 05 $150,000; FY 06 $0 (No-cost extension through 9/30/2007)

Abstract: The mission of the project is threefold. First, the project builds scientific knowledge regarding the needs of people with disabilities as they pertain to the Ticket-to-Work program and, more generally, vocational rehabilitation services. Second, there is a concentrated emphasis on examining the diversity of needs based on racial/ethnic background and type of disability. Lastly, the project aims to understand and address the capacity of employment networks and offices of rehabilitation services in terms of their outreach and delivery of services.
Field Initiated Projects (FIPs)
Massachusetts

Exploratory Study of the Relationship Between Stigma at the Workplace and the Vocational Recovery of People with Psychiatric Disabilities

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Center for Psychiatric Rehabilitation
Sargent College of Health and Rehabilitation Sciences
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Project Number: H133G030190
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 03 $149,985; FY 04 $149,938; FY 05 $149,971; FY 06 $0 (No-cost extension through 9/30/2007).

Abstract: The purpose of this project is to study the relationship between stigma of mental illness at the workplace and the vocational recovery of persons with psychiatric disabilities. More specifically, the project focuses, on one hand, on operationalizing the traumatic negative impact of stigma on mental health consumers’ capacity to obtain and sustain competitive employment, and, on the other hand, on the objective and subjective factors (i.e., supportive work environment, effective coping strategies, etc.) that minimize the interference of stigma with the vocational recovery of persons with psychiatric disabilities. In addition, the study explores the pivotal role of disclosure at the workplace in understanding the complex, multi-faceted relationship between stigma and the vocational recovery among persons with serious mental illness whose disability is often invisible.
Field Initiated Projects (FIPs)
Massachusetts

Development of Materials and Methods Needed to Deliver a Proven Job Retention Vocational Rehabilitation Intervention

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Project Number: H133G040216
Start Date: November 01, 2004
Length: 36 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 04 $136,876; FY 05 $111,005; FY 06 $149,148

Abstract: The purpose of the project is to maximize the full inclusion of persons with chronic diseases at risk for work disability into employment and economic self-sufficiency. The project uses the knowledge and understanding obtained from a recently completed research study showing that a job retention vocational rehabilitation (VR) intervention developed for the study reduced job loss in a sample of employed persons with serious rheumatic diseases. The approach to VR for the target population was innovative in that its goal was to prevent work disability rather than try to correct it. The specific intervention was innovative in that it incorporated strategies derived from both research and rehabilitation counseling expertise. The goal of the project is to develop the methods and materials needed by organizations providing VR services to carry out the intervention tested in the recently completed research study. Its short-term outcomes are increased ability of counselors to effectively deliver job retention VR intervention to employed persons with chronic diseases, improved knowledge of how to inform persons with chronic diseases of the availability of VR services, and increased awareness of the intervention and the requirements for delivering it. The objectives of the project are as follows: (1) to produce a Training Manual that contains information and materials needed to train counselors to carry out the intervention; (2) to produce a User’s Manual that contains the materials needed by counselors to carry out the intervention; (3) to assess the satisfaction of recipients with the intervention, including its content; (4) to produce a Recruitment Manual that contains strategy information and materials needed for reaching the target population; (5) to calculate intervention costs; and (6) to conduct dissemination activities to increase awareness of the value of the intervention and requirements for implementing it.
Field Initiated Projects (FIPs)
New Hampshire

Cognitive Training and Supported Employment in Severe Mental Illness

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Project Number: H133G050230
Start Date: December 01, 2005
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 05 $149,736; FY 06 $149,749

Abstract: Impaired cognitive functioning is an important predictor of employment outcomes in persons with severe mental illness (SMI), and a common complaint in consumers participating in vocational rehabilitation, including those in supported employment. This project evaluates a new, pilot tested and standardized intervention, the “Thinking Skills for Work” program is designed to help people with SMI succeed in supported employment programs, including both getting and keeping jobs. The Thinking Skills for Work program is aimed at improving the cognitive functioning of persons with SMI involved in supported employment, and is based on a heuristic model of the interactions between cognition, symptoms, work performance, and vocational services. According to the model, enhanced cognitive functions improve both work outcomes and the efficiency of vocational services (i.e., fewer support services needed per hour of consumer work). The Thinking Skills for Work program is delivered by a specialist who educates consumers about cognitive functioning and work, involves them in a three-month program of computerized cognitive skills training, and works in collaboration with the consumer and supported employment specialist to identify appropriate jobs, practice newly acquired cognitive skills in work-related settings, and develop compensatory strategies for managing persistent cognitive impairments.
Field Initiated Projects (FIPs)
New Hampshire

15-year Course of Competitive Employment for People with Severe Mental Illness

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Principal Investigator: Robert E. Drake MD, PhD
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Project Number: H133G050181
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 05 $149,796; FY 06 $149,832

Abstract: Little is known about long-term employment among people with severe and persistent psychiatric illnesses, such as schizophrenia or bipolar disorder, and vocational disabilities. Two small pilot studies suggest that a large proportion of these individuals, when exposed to effective vocational rehabilitation (VR) and supported employment services, do attain long-term jobs that are associated with greater independence, economic self-sufficiency, and recovery, but a prospective, longitudinal study is critically needed to confirm and amplify these findings. To address this issue, this study: (1) examines the longitudinal course of competitive employment (any competitive job) and long-term jobs (competitive employment lasting greater than one year) among people with severe mental illnesses; (2) details the impact of VR services, supported employment, and other services on long-term employment; and (3) examines the correlates of long-term employment, including independence, economic self-sufficiency, quality of life, and other aspects of recovery. The key objectives are to build a timeline of work, earned and other income, benefits, independent living, social functioning, symptom control, and quality of life over 15 years for each individual on the basis of multiple data sources; to link VR and other service records with employment outcomes by statistical means and by self-report; and to link employment outcomes with other manifestations of recovery, again by statistical means and by self-report. The project uses timeline methods, longitudinal data methods, and narrative self-reports to conduct these analyses. The outcomes of the study are to show that individuals with the most severe psychiatric disabilities are able to attain high rates of competitive employment and long-term employment, that VR and other services are critical to successful long-term employment, and that long-term employment is associated with independence, economic improvements, quality of life, and recovery.
Field Initiated Projects (FIPs)
New York

VRA-NET: Developing a Network of Trained Paraprofessionals to Address Personnel Shortages in Vision Rehabilitation

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Principal Investigator: Karen R. Seidman, MPA
Public Contact: 212/821-9465; Fax: 212/821-9705

Project Number: H133G050058
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 05 $149,990; FY 06 $149,252

Abstract: This project pilot tests a state-of-the art, accessible, online, and mentored training program with students and mentors in state and private agencies for the blind and those with visual impairments around the nation. Lighthouse International’s VRA-Net development initiative is based on the successes of previous projects involving the development of both comprehensive curricula and an accessible online training program for Vision Rehabilitation Assistants. The overall goal is to address a severe shortage of trained vision rehabilitation personnel, while increasing the availability of specialized vision rehabilitation services to meet the burgeoning population of adults with visual impairment in the US. The objectives of the project are to demonstrate the effectiveness of an accessible, online, mentored, and competency-based paraprofessional training program; promote the employment of persons with visual impairments, other conditions, and from disadvantaged backgrounds by providing a career path for these paraprofessionals in the field of vision rehabilitation; and evaluate and compare the implementation of onsite and remote mentors during the online and mentored training process.
Development and Distribution of an Accessible E-Learning Authoring System Software and Model Course for Vocational Rehabilitation Services Personnel

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Project Number: H133G030063
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 03 $149,991; FY 04 $149,964; FY 05 $149,938; FY 06 $0 (No-cost extension through 3/31/2007)

Abstract: This project develops and distributes two products that improve e-learning accessibility options and increase employment opportunities for people with disabilities. These products directly benefit two groups: (1) Instructional designers for web based courses, trainers in government and industry, and educators with access to a website link providing Flash components to be used in the development of accessible courseware for online learning. An online tutorial for the components will be developed and available with the Flash components. A Section 508 compliance and accessibility course is also in development. This course discusses the accessibility standards and what it means to develop web-based courses that are compliant and accessible. User-friendly, reusable templates are provided, thus enabling programmers to develop accessible courseware with less time and expense. (2) Vocational rehabilitation services and supported employment personnel receive a “face to face” web-based course. This course is an accessible model course available on a public website that teaches basic strategies of marketing and job development for people with disabilities.
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.

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Rehabilitation Research and Training Centers (RRTCs)
California

Rehabilitation Research and Training Center in Neuromuscular Diseases
(RRTC/NMD)

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Project Number: H133B031118
Start Date: December 01, 2003
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 03 $800,000; FY 04 $800,000; FY 05 $800,000; FY 06 $800,000
Abstract: The purpose of the Rehabilitation Research and Training Center in Neuromuscular Diseases (RRTC/NMD) is to enhance the health, function, and quality of lives of persons with neuromuscular diseases (NMD). The goals of this project are to: (1) develop a program for multicenter rehabilitation research in NMD through the Cooperative International Neuromuscular Research Group (CINRG); (2) conduct research that continues to address rehabilitation needs, particularly related to exercise, nutrition, pain, secondary conditions, and the quality of life of individuals with neuromuscular diseases; (3) develop and evaluate new or emerging technologies and interventions that provide the information needed to improve employment, community integration, and quality of life outcomes for this population of individuals with disabilities; (4) develop and evaluate appropriate health promotion and wellness programs that enhance the ability of individuals with neuromuscular disease to be physically active and participate in recreational activities; and (5) conduct a comprehensive program of training, dissemination, utilization, and technical assistance activities that are well-anchored in the research program and address the needs of stakeholders.
Rehabilitation Research and Training Centers (RRTCs)
California

Aging-Related Changes in Impairment for Persons Living with Physical Disabilities

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Principal Investigator: Bryan J. Kemp, PhD
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Project Number: H133B031002
Start Date: August 01, 2003
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 03 $700,000; FY 04 $700,000; FY 05 $700,000; FY 06 $700,000

Abstract: This project is a combined effort of Rancho Los Amigos National Rehabilitation Center and the University of California at Irvine, with other collaborators including the Center for Disability in the Health Professions at Western University and two Rehabilitation Engineering Research Centers. This project evolves from the fact that persons who have a disability are now living into middle age and late life in ever-increasing numbers. However, many of these people appear to be experiencing premature age-related changes in health and functioning. The project tests a model for improved understanding of these problems and interventions to help alleviate them. Persons who are experiencing these kinds of problems and their families are included in all center projects. The training, dissemination, and technical assistance activities include clinical training of current and future health providers, current and future researchers, persons with disabilities, their families, and policy makers. Both traditional methods of one-on-one and group training as well as technology-based distance training techniques are used to reach national audiences and underserved populations.
Rehabilitation Research and Training Centers (RRTCs)
District of Columbia

Access to Rehabilitation and Empowerment Opportunities for Minority Persons with Disabilities

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Principal Investigator: Dr. M. Gerlene Ross
Public Contact: 202/865-8140; Fax: 202/806-8148

Project Number: H133B000903
Start Date: October 01, 2000
Length: 60 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 00 $600,000; FY 01 $600,000; FY 02 $600,000; FY 03 $600,000; FY 04 $600,000; FY 05 $0 (No-cost extension through 9/30/2006); FY 06 $0 (No-cost extension through 12/31/2006)
Other Funding: FY 01 $39,375 (NIDRR)

Abstract: The Howard University Research and Training Center for Access to Rehabilitation and Empowerment Opportunity (HURTC) is implementing a RRTC on Access to Rehabilitation and Empowerment Opportunities for Minority Persons with Disabilities to help them achieve self-determination, economic independence, and full participation in American life. The program of the Center is designed to attain the following objectives: identify methodological problems determining the rehabilitation needs of persons with disabilities from minority backgrounds (including sub-populations within these groups) and propose strategies to address these methodological problems; based on research findings, identify implications for rehabilitation research, training, policy development, and services; assess the outcomes of rehabilitation for persons with disabilities from minority backgrounds as measured by two or more variables (such as functional abilities, wellness, employment, health/wellness, and psychosocial status); analyze the affects of minority status on rehabilitation outcomes; and identify, develop, and evaluate rehabilitation methodologies, models, and interventions for specific minority groups. The HURTC collaborates with the Center for Disease Control, the Center for Minority Health, and a variety of stakeholders including consumers with disabilities, state agencies, continuing education programs, and community-based organizations.
Rehabilitation Research and Training Center on Spinal Cord Injury: Promoting Health and Preventing Complications through Exercise

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Principal Investigator: Suzanne L. Groah, MD 202/877-1196
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Project Number: H133B031114
Start Date: December 01, 2003
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 03 $800,000; FY 04 $800,000; FY 05 $800,000; FY 06 $800,000

Abstract: This project systematically and comprehensively addresses the role and impact of physical activity in the prevention of secondary conditions in people with spinal cord injury (SCI). Initially, the project establishes critical, yet-undefined physiological responses to exercise in SCI and comprehensively examines cardiovascular disease risk in individuals with SCI applying accepted guidelines used in the able-bodied population. The project develops exercise formats specifically designed according to severity of SCI and chronicity of SCI to address the prevention of and knowledge regarding osteoporosis and other secondary conditions. In addition, the project determines whether regular exercise is related to fewer secondary conditions. These research findings feed into four training activities that include a peer mentoring program for newly injured people with SCI, a consumer-driven education curriculum for physical therapy and medical students, a state-of-science and training conference, and the development of a virtual resource network on exercise and prevention. The RRTC is a collaborative effort of clinical and disability researchers, SCI consumer organizations, and independent living advocates. The RRTC maintains a Live Journal site at rrte-sci.livejournal.com/ and a webcast on Exercise and Physical Activity for Persons with SCI at nrhfoundry.medstar.net/mediasiteviewer/?cid=d8381286-2ad2-4fed-922c-31464b0cc049
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Project Number: H133B031127
Start Date: October 01, 2003
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 03 $800,000; FY 04 $800,000; FY 05 $800,000; FY 06 $800,000

Abstract: This project develops and evaluates a sequence of robotic training and assistive devices that are designed with the idea of promoting efficient function in the workplace or at home, and with the further intent that they form a basis for the development of appropriate technologies to allow people with disabilities ready access to existing facilities in the community. At each stage the project engages engineering students as a means to provide intensive effort for development of novel designs, but also to provide valuable opportunities for training students in the themes related to recovery of function and community integration of people with disabilities. Other projects at this center include: the use of emotionally expressive and narrative writing to facilitate coping and adaptation after stroke; computerized training for conversational scripts that facilitate access to the community and work force; and a consumer-directed, dynamic assessment methodology for evaluating community living and work participation environments and technologies for use by people who have had a stroke. In addition to these projects, the RRTC develops and evaluates a comprehensive plan for training directed to stroke survivors and their families, students, researchers, clinicians, and service providers. These approaches are implemented through a variety of mechanisms, including continuing education courses, web-based presentations, and intensive training in our research facilities.
Missouri Arthritis Rehabilitation Research and Training Center (MARRTC)

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Project Number: H133B031120
Start Date: October 01, 2003
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 03 $800,000; FY 04 $800,000; FY 05 $800,000; FY 06 $800,000

Abstract: The purpose of the Missouri Arthritis Rehabilitation Research and Training Center (MARRTC) is to provide leadership at the national level in support of three key objectives: to reduce pain and disability, to improve physical fitness and quality of life, and to promote independent living and community integration for persons with arthritis of all ages in the United States. State-of-the-science rehabilitation research addresses the needs of persons with arthritis in the following areas: (1) home and community-based self-management programs, (2) benefits of exercise and physical fitness, and (3) technologies available to the broad populations of persons with arthritis in the environments where they live, learn, work, and play. The MARRTC conducts training and capacity-building programs for critical stakeholders within the arthritis disability arena, including consumers, family members, service providers, and policy makers. Additionally, the MARRTC provides technical assistance for persons with arthritis and other stakeholders in order to promote utilization of arthritis-related, disability research. The MARRTC also provides widespread dissemination of informational materials to persons with disabilities, their representatives, service providers, and other target audiences (e.g., editors and reporters).
Rehabilitation Research and Training Centers (RRTCs)
New York

Rehabilitation Research and Training Center on Traumatic Brain Injury Interventions

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Project Number: H133B040033
Start Date: October 01, 2004
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 04 $700,000; FY 05 $700,000; FY 06 $700,000

Abstract: The research program includes two randomized clinical trials (RCTs) and two projects supportive of better everyday interventions and better research: Research Study 1 (R1) is an RCT of a treatment for depression: cognitive behavioral therapy, adapted to address the unique cognitive and behavioral challenges of people with TBI that often pose barriers to treating depression, a major factor in reducing post-TBI quality of life, is compared to supportive therapy. In R2, a second RCT, a standard day treatment program is compared to a similar program (Executive Plus), augmented with modules to improve executive functioning and attention training. R3, Support for Evidence-Based Practice, evaluates all published research on post-TBI interventions and assessment of outcomes; it serves as a national resource for disseminating the results. It also implements three participatory action research-based analyses of high priority areas, including meta-analyses if appropriate. In addressing improved outcome measurement, R4 focuses on the PART instrument, a measure of participation currently being tested within eight TBI Model Systems. R4 focuses on creating a subjective approach to serve as a complement to the PART’s current focus on objective assessment. A major focus of the RRTC is placed on capacity building of clinical and research professionals to address the need for better day-to-day interventions in the lives of people with TBI. Often their medical needs are misread, their brain injury goes unidentified, and they find services and accommodations inappropriate. Capacity building focuses on students early in their educational career - to help shape career choice and points of view; graduate and post-graduate students; and practicing “gate keepers” in the community, primarily psychologists and physicians.
Rehabilitation Research and Training Centers (RRTCs)
Oregon

Rehabilitation Research and Training Center on Health and Wellness in Long Term Disability

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Project Number: H133B040034
Start Date: October 01, 2004
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 04 $700,000; FY 05 $700,000; FY 06 $700,000

Abstract: The vision of the RRTC is to contribute to the reduction of health disparities for persons with disabilities through an integrated program of research, training, technical assistance, and dissemination. The Center has three inter-related strands of work to address its three intended outcomes/goals: (1) identify strategies to overcome barriers that impede access to routine healthcare for individuals with disabilities; (2) identify interventions in areas such as exercise, nutrition, pain management, or complementary and alternative therapies that promote health and wellness and minimize the occurrence of secondary conditions for persons with disabilities; and (3) develop improved status measurement tool(s) to assess health and well-being of individuals with disabilities regardless of functional ability. In order to achieve these outcomes, the RRTC conducts a coordinated program of research and training activities using a logic model framework. RRTC projects summarize and validate existing research findings on barriers to health care access as well as rigorously test and compare new strategies to overcoming identified barriers. The RRTC also examines and evaluates the practices of exemplary generic and specialized health promotion programs for people with disabilities in order to create an evidence-based set of evaluation and planning criteria. In addition, the RRTC organizes and uses panels to assess current health status measurement tools and develops or refines measures to more accurately reflect the health and well-being of people living with disabilities. Throughout these activities the RRTC disseminates informational materials and provide technical assistance to individuals with disabilities, their representatives, providers, and other interested parties.
Rehabilitation Research and Training Centers (RRTCs)
Washington

Multiple Sclerosis Rehabilitation Research and Training Center

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Project Number: H133B031129
Start Date: October 01, 2003
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 03 $800,000; FY 04 $800,000; FY 05 $800,000; FY 06 $800,000

Abstract: This center conducts rehabilitation research that: (1) develops new interventions and practices in the areas of disease suppression, strength enhancement, preserving employment, depression management, and pain control; (2) collects data from an extensive survey and explores complex interactions among multiple variables, models factors that predict differing levels of participation by people with multiple sclerosis (MS), and proposes points of intervention that modify changes in function; and (3) facilitates enhanced participation through training, technical assistance, and dissemination through professional meetings, publications, and a State-of-the-Science conference. In addition, a web-based knowledgebase provides technical assistance to individuals with MS and healthcare providers with respect to caregiver issues, financial and insurance planning, self-sufficiency and coping, and assistive technology.
Collaborative Spinal Cord Injury Model Systems Centers Program:
Improving Spinal Cord Injury Rehabilitation Outcomes

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Project Number: H133A060103
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 06 $2,200,000

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 spinal cord injury, 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 National Data and Statistical Center for the Traumatic Brain Injury Model Systems

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Project Number: H133A060038
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 06 $625,000

Abstract: By implementing a comprehensive and innovative program of new data management technologies and operating procedures that emulate the best practices of clinical research organizations and data coordinating centers, the National Data and Statistical Center (NDSC) increases the rigor and efficiency of scientific efforts to longitudinally assess the experience of individuals with traumatic brain injury (TBI) and advances TBI rehabilitation. The TBIMS database and the NDSC introduce the following innovations: a state-of-the-art web-based data management system; a computer-assisted interview system; a Standard Operating Procedures Manual; training through quarterly web-based conferences, as well as more frequent in-person conferences; comprehensive Data Collector certification; annual data monitoring visits to each center; analysis of ethnic/racial bias in participant recruitment and retention and collaboration with the NIDRR-funded Center for Capacity Building on Minorities with Disabilities Research; providing more comprehensive methodological as well as statistical consultation; continuation of the TBIMS survival study; a system for following participants from defunded centers; and the use of common procedures, technologies, and training among all Model System Data Centers.
Health Services Research DRRP on Medical Rehabilitation

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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: H133A030807
Start Date: July 01, 2003
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 03 $300,000; FY 04 $300,000; FY 05 $300,000; FY 06 $300,000
Abstract: This research addresses the need to improve the delivery of health services to persons with disabilities by (1) evaluating the impact of Medicare’s inpatient rehabilitation facilities’ (IRF) prospective payment system (PPS) on access to rehabilitation services in terms of settings, services, and length of stay; and (2) identifying the impact of comorbidities on how patients are classified and reimbursed under the new IRF PPS. Medicare’s new PPS for IRF may limit effective access to care because facilities will take fewer risks with patients deemed to be “high cost outliers,” hire more “therapy extenders” rather than licensed professionals, and discharge patients at a higher rate to nursing facilities rather than to community settings. The four specific aims of the research are to: (1) examine changes in the organization of medical rehabilitation services in response to prospective payment; (2) examine changes in patient access to medical rehabilitation settings and services resulting from organizational responses to the change in reimbursement; (3) examine the impact of PPS-related changes in service delivery on patient outcomes; and (4) identify the impact of comorbidities on classification and reimbursement in medical rehabilitation PPS.
Reducing Obesity and Obesity-Related Secondary Conditions in Adolescents with Disabilities

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Project Number: H133A060066
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 06 $250,000

Abstract: This project examines the antecedents and consequences of obesity using the ICF framework that addresses both person and environment contextual factors that relate to obesity in adolescents with disabilities; evaluates the validity and utility of an alternative approach for establishing more accurate cutoff points for overweight and obesity in adolescents with disabilities; develops a pilot intervention using an innovative personalized exercise and nutrition program (PEP-for-Youth) for managing obesity among youth with physical and developmental disabilities; and develops mutually beneficial working partnerships with community-based organizations to promote reduction of obesity in youth with disabilities. The research projects operate in partnership with Shriners Hospitals for Children and six national disability organizations (Easter Seals, United Cerebral Palsy, Spina Bifida Association, The Arc, Partners for Youth with Disabilities, and Blaze Sports America).
A Multicenter Prospective Randomized Controlled Trial of the Effectiveness of Amantadine Hydrochloride in Promoting Recovery of Function Following Severe Traumatic Brain Injury

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Project Number: H133A031713
Start Date: January 01, 2004
Length: 60 months
NIDRR Officer: Ruth Brannon
NIDRR Funding: FY 03 $599,862; FY 04 $599,994; FY 05 $599,994; FY 06 $599,994

Abstract: In this study, eight facilities (three of which are also Traumatic Brain Injury (TBI) Model Systems), join with a Data Coordinating Center at Columbia University, to conduct a prospective double blind randomized controlled trial of amantadine. More than 180 patients who remain in vegetative state (VS) or minimally conscious state (MCS) 4-16 weeks post-TBI are randomized in a stratified fashion to 4 weeks of amantadine (200-400 mg/day) vs. placebo, followed by a 2-week washout period. The Disability Rating Scale is the primary dependent variable with the Coma Recovery Scale-Revised serving as a supplementary measure. The project also explores whether treatment response differs by time post-injury and by diagnosis (i.e., VS or MCS) at treatment onset, and whether specific outcomes of importance to caregivers are achieved more often in the amantadine group.
Disability and Rehabilitation Research Projects
Pennsylvania

Collaboration of Upper Limb Pain in Spinal Cord Injury

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Project Number: H133A011107
Start Date: December 01, 2001
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 01 $349,998; FY 02 $349,950; FY 03 $349,954; FY 04 $349,936; FY 05 $349,947; FY 06 $0 (No-cost extension through 11/30/2007)

Abstract: This collaborative studies project provides an opportunity to gain further insight into the cause and prevention of upper limb repetitive strain injuries in SCI. For the approximately 200,000 individuals with SCI, upper limb pain and injury is very common; some studies find prevalence rates above 70 percent. Prolonged wheelchair use and transfers have long been thought to cause these repetitive strain injuries. The consequences of upper limb pain are so significant that some researchers have suggested that damage to the upper arm may be functionally and economically equivalent to a spinal cord injury of higher neurological level. This collaboration includes the University of Pittsburgh Medical Center Spinal Cord Injury project, the Northern New Jersey Spinal Cord Injury System (NNJSCIS), and the Northwest Regional Spinal Cord Injury System (NWRSCIS).
Medicaid Quality Indicators for Individuals with Disabilities

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Principal Investigator: Susan E. Palsbo, PhD
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Project Number: H133A040016
Start Date: July 01, 2004
Length: 48 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 04 $299,999; FY 05 $299,999; FY 06 $299,999

Abstract: This project develops and validates health service quality indicators for people with disabilities. The target population to be served is people with disabilities enrolled in managed Medicaid programs. The goal is to develop and field test quality measures for people with disabilities in managed care organizations. The specific aims are: (1) Case Identification: Improve the computer algorithm for Medicaid plans to identify beneficiaries who have disabilities. (2) Plan-reported indicators: Select a subset of existing HEDIS Medicaid measures that are appropriate and statistically meaningful for indicating the quality of care for the people identified in Aim#1. (3) Consumer-reported indicators: Assess the content validity of the Axis-CAHPS survey. (4) Develop comparative reporting tools of the quality of care between and within health plans. This is a combined qualitative and quantitative study with three interrelated segments. (1) Extend previous research on using routine health claims data to identify beneficiaries who are at risk of needing modified help to access their Medicaid benefits and services. (2) Review and refine the two most widely used Medicaid quality indicator tools, CAHPS and HEDIS; and extend work on refining the CAHPS instrument for people with physical disabilities. (3) Explore how people with disabilities, payers, and providers can use the indicators to improve practice and report outcomes using comparative reporting tools.
Disability and Rehabilitation Research Projects
Washington

The Effect of Scheduled Telephone Intervention on Outcomes After Traumatic Brain Injury (TBI)

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Principal Investigator: Kathleen R. Bell, PhD
Public Contact: 206/685-0935; Fax: 206/685-3244

Project Number: H133A040004
Start Date: December 01, 2004
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 04 $600,000; FY 05 $600,000; FY 06 $600,000

Abstract: This project evaluates the effect of scheduled telephone intervention (STI), a low-cost, easily implemented intervention in three states on functional and health outcomes, at weeks 1-2, 4, 8, and 12, and months 5, 7, and 9 on functional level, health and emotional status, community integration, and perceived quality of well-being over one year after TBI. Timely intervention to identify problems after TBI, to teach patients and their families coping techniques within their own communities and support their independent decision-making may effectively decrease the need for expensive and often inaccessible services and may improve the quality of life for survivors of TBI. Researchers are evaluating the effect of additional STI at months 15, 18, and 21 on the same variables and employment at two years after TBI. Research examines whether the effects of such intervention are similar in multiple sites over a wide geographic area. It also examines the differential impact of the intervention in demographic subgroups, with particular attention to minority versus non-minority racial and ethnic populations.
Controlled Trial of Venlafaxine XR for Depression After SCI: A Multisite Study

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Principal Investigator: Charles H. Bombardier, PhD 206/731-3665
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Project Number: H133A060107
Start Date: January 01, 2007
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $2,198,213

Abstract: This project is a multisite, randomized, double-blind, placebo controlled trial of venlafaxine XR (Effexor XR) in 168 adults with spinal cord injury (SCI) and major depressive disorder (MDD) who are one or more years post injury. The purpose of the study is to examine the efficacy and tolerability of venlafaxine XR as a treatment for MDD. The primary outcome is the percent of responders (those who report at least a 50% reduction in depression severity from baseline to the end of treatment) in the venlafaxine XR versus placebo control group using intent-to-treat analysis. Secondary outcomes include changes in pain, health related quality of life, and participation. A successful clinical trial could lead to more aggressive identification and treatment of MDD as well as improved health and quality of life in this important population.
Model Traumatic Brain Injury Systems
Alabama

UAB TBI Model System

University of Alabama/Birmingham
Spain Rehabilitation Center
Physical Medicine and Rehabilitation
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Principal Investigator: Thomas A. Novack, PhD
Public Contact: Pamela K. Mott 205/934-3283

Project Number: H133A020509
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 02 $365,000; FY 03 $365,000; FY 04 $365,000; FY 05 $365,000; FY 06 $365,000

Abstract: The University of Alabama at Birmingham (UAB) is maintaining and further developing a Traumatic Brain Injury Model System (TBIMS) that improves rehabilitation services and outcomes for persons with TBI. This project provides a multidisciplinary system of rehabilitation care specifically designed to meet the needs of individuals with TBI, and, as demonstrated over the past four years as a TBIMS, adequately enrolls subjects to complete research projects successfully. In addition to contributing data to the TBI National Database, the UAB TBIMS conducts two research projects: (1) an examination of the use of a serotonin agonist medication (sertraline) to lessen the incidence and severity of depression during the first year of recovery following TBI; (2) a study of the impact of a training program in problems solving for caregivers.
**Model Traumatic Brain Injury Systems**  
California

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

Santa Clara Valley Medical Center (SCVMC)  
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**Principal Investigator:** Tamara Bushnik, PhD  
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**Project Number:** H133A020524  
**Start Date:** October 01, 2002  
**Length:** 60 months  
**NIDRR Officer:** Theresa San Agustin, MD  
**NIDRR Funding:** FY 02 $364,038; FY 03 $364,588; FY 04 $364,745; FY 05 $364,956; FY 06 $353,426

**Abstract:** This project conducts two studies to better characterize the type and impact of fatigue on the TBI population: (1) a cross-sectional study of people up to ten years post-TBI and (2) a longitudinal study that focuses on the evolution of fatigue over the first two years post-injury. Both studies utilize standardized measurements of fatigue, as well as those for depression/affective disorders, sleep disturbance, activity scales, and measurements of hormone levels reflective of the health of the neuroendocrine system. Two additional studies characterize the impact of late posttraumatic seizures on recovery: (1) a study utilizing data already in the TBIMS National Database that compares the functional, vocational, and medical complication outcomes of those with and without late posttraumatic seizures; (2) a study in collaboration with Denver Hospital Medical Center that interviews individuals at both sites who participated in a previously funded NIDRR grant on seizure risk identification. This study further evaluates barriers to the environment, transportation, and challenges in control of their seizures.
Model Traumatic Brain Injury Systems  
Colorado

The Rocky Mountain Regional Brain Injury System (RMRBIS)

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Englewood, CO 80113  
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www.craighospital.org

Principal Investigator: Gale G. Whiteneck, PhD 303/789-8204  
Public Contact: Cynthia Harrison-Felix, PhD 303/789-8565; Fax: 303/789-8441

Project Number: H133A020510  
Start Date: October 01, 2002  
Length: 60 months  
NIDRR Officer: Theresa San Agustin, MD  
NIDRR Funding: FY 02 $365,000; FY 03 $365,000; FY 04 $365,000; FY 05 $365,000; FY 06 $365,000

Abstract: The Rocky Mountain Regional Brain Injury System (RMRBIS) conducts three research projects. Study 1 examines the effects of Modafinil on fatigue and excessive sleepiness after TBI. Study 2 assesses the effectiveness of a group therapy intervention for social pragmatic communication. Study 3 uses the unique database assets of Craig Hospital and investigates the environmental and clinical factors that influence outcome over a 40-year time frame to understand the process of living and aging with a TBI. In addition to clinical research and service, Craig Hospital, as the RMRBIS, documents an outstanding record of dissemination, for all customers including clinical consumers, community agencies and advocacy groups, other clinical service centers and systems, and professionals engaged in the treatment of persons with TBI.
Model Traumatic Brain Injury Systems
Massachusetts

The Spaulding/Partners TBI Model System at Harvard Medical School

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Principal Investigator: Mel B. Glenn, MD 617/573-2625
Public Contact: Therese O’Neil-Pirozzi, ScD 617/573-2456; Fax: 617/573-2469

Project Number: H133A020513
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 02 $365,000; FY 03 $365,000; FY 04 $365,000; FY 05 $365,000; FY 06 $365,000

Abstract: The Spaulding TBI Model System (TBIMS) provides a comprehensive spectrum of care for people with TBI through the collaborative efforts of three hospitals that are part of Partners Health Care System, Inc., and four organizations that operate a variety of postacute rehabilitation programs. Research at the center includes development of functional neuroimaging as a tool to guide cognitive rehabilitation treatment for people with TBI, and use of functional magnetic resonance imaging (fMRI), with both a cross-sectional and longitudinal component. The cross-sectional component assesses regional brain activation during the memorization of word lists, both under undirected (spontaneous) conditions and following training and cueing to use a categorization strategy. The longitudinal component studies the ability of the fMRI findings to predict outcome among people with TBI who participate in community integration program with a cognitive rehabilitation focus.
Southeastern Michigan Traumatic Brain Injury System (SEMTBIS)

Wayne State University and Rehabilitation Institute of Michigan
Department of Physical Medicine and Rehabilitation
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Principal Investigator: Robin A. Hanks, PhD 313/745-9763
Public Contact: Jeffrey Wertheimer, PhD 313/745-9763; Fax: 313/966-7502

Project Number: H133A020515
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 02 $364,996; FY 03 $364,995; FY 04 $364,997; FY 05 $364,992; FY 06 $364,991

Abstract: The Southeastern Michigan Traumatic Brain Injury System (SEMTBIS) program conducts projects developed with the help of SEMTBIS consumers, as well as other members of the Detroit community. There are three principal studies during this grant cycle: (1) a peer-mentoring intervention: This study is a randomized controlled trial of a peer-mentoring program for both survivors and their caregivers; (2) a dynamic system of survivor and significant-other well-being: This investigation studies 250 community-dwelling adults with TBI and their caregivers/significant others, exploring the relationship of survivor-caregiver situations with survivor distress and family dysfunction. It also studies whether or not social support acts as a moderating influence upon the well-being of persons with TBI; (3) resumption of driving after brain injury: This study examines correlates of driving after brain injury: barriers, fitness to drive, and community rapport. Participatory action is a central component of project implementation, evaluation, and dissemination. SEMTBIS participates in clinical and systems analysis studies of the TBI Model Systems by collecting and contributing data to the uniform, standardized national database. Project findings for the studies described above are available at: TBINDC.org or tbindc.org/registry/searchresults.php?searchparam=project/center/4
Model Traumatic Brain Injury Systems
Minnesota

Mayo Clinic Traumatic Brain Injury Model System

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Rochester, MN 55905
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www.mayo.edu/model-system

Principal Investigator: James F. Malec, PhD
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Project Number: H133A020507
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 02 $364,891; FY 03 $364,738; FY 04 $363,786; FY 05 $364,993; FY 06 $364,537

Abstract: This Traumatic Brain Injury Model System (TBIMS) focuses on three local research projects:
(1) decision-making and outcomes of inpatient and outpatient rehabilitation pathways, (2) very-long-term
(5-15+ years postinjury) process and outcome for people with TBI, identified through the Rochester
Epidemiology Project, and (3) telehealth-based (Internet) cognitive rehabilitation. Telehealth is a potentially
important innovation in this system’s region, where distance limits access to medical and rehabilitation
services and many consumers have limited access to health care, insurance, employment, and viable political
representation. In addition to professional publications and presentations, continuing dissemination efforts
include the Mayo Clinic TBIMS website, the TBI Hotline, the Messenger newsletter, contributions to the
COMBI web site and COMBI and TBIMS newsletters, and regular participation by Mayo Clinic TBIMS
staff at all annual state brain injury association meetings in the extended five-state geographical region.
During the next five years, the project plans to develop an advocacy training program to help people with
TBI and their families and significant others in the region learn self-advocacy skills. Members of the Mayo
TBI Regional Advisory Council were proactively involved in developing this project.
Traumatic Brain Injury Model System of Mississippi (TBIMSM)

Methodist Rehabilitation Center
Brain Injury Program
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Project Number: H133A020514
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 02 $365,000; FY 03 $365,000; FY 04 $365,000; FY 05 $365,000; FY 06 $365,000

Abstract: The TBI Model System of Mississippi (TBIMSM) is a collaborative project of Methodist Rehabilitation Center and the University of Mississippi Medical Center. This project involves three studies. The first study investigates two medications in a parallel group, double blind, placebo controlled, randomized assignment design. The drugs under investigation have differing neurotransmitter effects, although each drug has been reported to have therapeutic benefit. The target population for this study is persons with TBI who are in a state of posttraumatic confusional state (PCS). This is considered a state-of-the-art approach to PCS given the severe lack of controlled research to measure medication usage in PCS. The second study develops and conducts a trial of an intervention to improve the therapeutic alliances between persons with TBI and family members and professional staff serving persons with TBI in a post-acute brain injury neurorehabilitation program (PABIR). The third research project investigates the use of transcranial magnetic stimulation (TMS) to improve the characterization of motor disorders after TBI. Current research suggests that improved use and better understanding of TMS technology will lead to new intervention trials to improve motor function after TBI.
Model Traumatic Brain Injury Systems
New Jersey

JFK-Johnson Rehabilitation Institute TBI Model System

JFK Johnson Rehabilitation Institute
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www.njrehab.org/tbims

Principal Investigator: Keith D. Cicerone, PhD
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Project Number: H133A020518
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 02 $365,000; FY 03 $365,000; FY 04 $365,000; FY 05 $365,000; FY 06 $365,000

Abstract: This project implements and evaluates innovative rehabilitation interventions that address the spectrum of severity and needs of persons with TBI. The first research study investigates the relationship between neurobehavioral (i.e., standardized rating scale) and neurophysiologic (i.e., functional MRI data) indices of brain function in persons with traumatic minimally conscious state (MCS). The second study addresses current clinical and methodological concerns over the effectiveness of cognitive rehabilitation on cognitive functioning, community integration and social participation, return to school and work, and quality of life after traumatic brain injury. The third study uses qualitative inquiry to describe the quality of life after TBI from the perspective of persons at various stages after their injuries. These findings are triangulated with quantitative indices of community integration and satisfaction with functioning, which should provide a richer and more authentic understanding of what it takes to live a fulfilling life after traumatic brain injury.
New York Traumatic Brain Injury Model System (NYTBIMS)

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Project Number: H133A020501
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 02 $365,000; FY 03 $365,000; FY 04 $365,000; FY 05 $365,000; FY 06 $365,000

Abstract: This project advances the understanding of TBI and its consequences and improves rehabilitation outcomes. The research projects focus on depression and fatigue, impairments that limit participation in community and vocational activities: Treatment of Post-TBI Depression is a randomized clinical trial to examine the efficacy of sertraline (Zoloft) in the treatment of depression and anxiety after traumatic brain injury. Study of Post-TBI Fatigue and its Treatment investigates the components, consequences, and correlates of post-TBI fatigue, and in a randomized clinical trial, evaluates the benefits of modafinil (Provigil) to treat fatigue in individuals with TBI.
Model Traumatic Brain Injury Systems
North Carolina

Carolinas Traumatic Brain Injury Rehabilitation and Research System
(CTBIRRS)

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Charlotte Institute of Rehabilitation
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Principal Investigator: Flora M. Hammond, MD
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Project Number: H133A020522
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 02 $365,000; FY 03 $365,000; FY 04 $365,000; FY 05 $365,000; FY 06 $365,000

Abstract: This project investigates posttraumatic irritability, its relationship to the caregiver as a component of the environment, the reaction to amantadine hydrochloride, and the nature of the problem as experienced by those in the community. The mission of CTBIRRS is to improve care and outcomes for survivors of TBI through medical treatments, services, research, and dissemination to expand and enhance services throughout their lifetime. 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.
Model Traumatic Brain Injury Systems
Ohio

Ohio Regional TBI Model System

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Project Number: H133A020503
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 02 $365,000; FY 03 $364,995; FY 04 $364,970; FY 05 $364,885; FY 06 $364,957

Abstract: This model system includes two local research projects on substance abuse and persons with TBI. Study 1 is a randomized clinical trial testing interventions to promote retention in substance abuse treatment. This study employs intervention strategies found effective for clients with TBI when first engaging with a treatment program. Study 2 tests the concurrent validity of an instrument that documents the extent of a person’s prior history of TBI objectively. This instrument is intended for research on TBI as a mediating factor in substance abuse treatment. This model system utilizes innovative community integration programs: Team Brain Injury (follow-up case management), the TBI Network (substance abuse treatment), and Community Capacity Building (education and advocacy operated in conjunction with the Brain Injury Association of Ohio).
Model Traumatic Brain Injury Systems
Pennsylvania

The Moss Traumatic Brain Injury Model System

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Moss Rehabilitation Research Institute
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Project Number: H133A020505
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 02 $365,000; FY 03 $365,000; FY 04 $365,000; FY 05 $365,000; FY 06 $365,000

Abstract: This project provides cutting-edge care for persons with TBI, conducts research on treatment of TBI in three key areas, and disseminates new knowledge to consumer and professional audiences, using an extensive collaborative network. Seven Trauma Centers and two nationally renowned rehabilitation facilities, MossRehab and Magee Rehabilitation, collaborate in the clinical component of the Moss Traumatic Brain Injury Model System. The Moss Rehabilitation Research Institute administers the research component, which includes collaborative longitudinal data collection, as well as three local research projects on: (1) the use of assistive technology for cognitive and behavioral disabilities, (2) validation of an observational rating scale of attention dysfunction in a psychostimulant treatment trial, and (3) use of botulinum toxin for treating severe spasticity caused by TBI. The Moss TBIMS emphasizes consumer involvement in clinical program improvement, research design, and dissemination via collaboration with the Brain Injury Association of Pennsylvania and other consumers.
University of Pittsburgh Brain Injury Model System (UPBI)

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Project Number: H133A020502
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 02 $364,484; FY 03 $360,375; FY 04 $362,875; FY 05 $362,875; FY 06 $362,875

Abstract: The research focus of the University of Pittsburgh Brain Injury Model System is on innovation in rehabilitation technology for persons with TBI. The project evaluates the impact of selected innovations in technology on service delivery, functional outcome, and as a therapeutic intervention. It addresses the shortcoming in wheelchair design for persons with brain injury by evaluating a unique, personalized powered mobility system. Collaboration with the Robotics Institute at Carnegie Mellon University allows researchers to perform a randomized trial evaluating the efficacy of virtual reality and robotics for persons with TBI. Finally, the project uses intelligent navigation technology to implement and evaluate a web-based virtual case manager support structure for persons with TBI and their families.
Model Traumatic Brain Injury Systems
Texas

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

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Project Number: H133A020526
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 02 $364,999; FY 03 $365,000; FY 04 $365,000; FY 05 $365,000; FY 06 $365,000

Abstract: The North Texas Traumatic Brain Injury Model System (NT-TBIMS) provides a comprehensive continuum of care for TBI patients 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. Additionally, the NT-TBIMS conducts two research projects aimed at obtaining predictive information regarding outcome after TBI, which is important to the goal of developing novel therapies and tailoring these therapies to individual patients: (1) to determine whether the inheritance of particular alleles in certain candidate genes is associated with a greater risk of poor outcome after TBI; and (2) to determine whether Diffusion Tensor Magnetic Resonance Imaging, a novel imaging technique, is a more reliable indicator of Diffuse Axonal Injury than standard structural MRI.
**Model Traumatic Brain Injury Systems**
Virginia

**Virginia Commonwealth Traumatic Brain Injury Model System**

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Box 980542  
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**Principal Investigator:** Jeffrey S. Kreutzer, PhD 804/828-9055  
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**Project Number:** H133A020516  
**Start Date:** October 01, 2002  
**Length:** 60 months  
**NIDRR Officer:** Theresa San Agustin, MD  
**NIDRR Funding:** FY 02 $365,000; FY 03 $365,000; FY 04 $365,000; FY 05 $365,000; FY 06 $365,000

**Abstract:** This project, utilizing rigorous scientific methods, examines the benefits of intervention during the acute and post-acute periods after brain injury. TBIMS and other researchers have primarily focused on delineating outcomes. Until recently, concerns about survivors’ emotional well-being and adjustment to injury received scant attention. Yet, 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. Projects in three major research areas focus predominantly on survivors. One study examines pharmacological approaches to the treatment of depression, while another examines a structured approach to the treatment of acute cognitive and neurobehavioral problems. Examining the benefits of intervention programs for family members is the third major research area.
Model Traumatic Brain Injury Systems
Washington

University of Washington Traumatic Brain Injury Model System

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Project Number: H133A020508
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Ruth Brannon
NIDRR Funding: FY 02 $365,000; FY 03 $365,000; FY 04 $365,000; FY 05 $365,000; FY 06 $365,000

Abstract: This program conducts research relevant to TBI, enhances services to consumers, and furthers the National Database and intersystem collaboration. The program’s three research projects are: (1) a randomized controlled intervention study examining the effect of exercise on depression after TBI. This low-cost, community intervention seeks to combat depression and emotional distress in persons with stable TBI by employing exercise as a positive approach to improved emotional and physical functioning and socialization. (2) An examination of the characteristics of TBI survivors who are able to return to employment and hold jobs that are stable and complex in nature, utilizing both the UW TBI longitudinal database and the Model System database. (3) An examination of the impact of the Medicare prospective payment system for inpatient rehabilitation on TBI survivors receiving access to acute rehabilitation efforts. The program also contributes to the National Database.
Model Burn Injury Systems  
Colorado

UCHSC Burn Model System Data Coordination Center (BMS/DCC)  
University of Colorado Health Sciences Center  
School of Medicine  
Department of Preventive Medicine and Biometrics  
4200 East Ninth Avenue, Box B119  
Denver, CO 80262  
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Principal Investigator: Dennis C. Lezotte, PhD 303/315-6873  
Public Contact: Rebecca Sloan, Project Coordinator 303/315-0320; Fax: 303/315-3183

Project Number: H133A020402  
Start Date: October 01, 2002  
Length: 60 months  
NIDRR Officer: Theresa San Agustin, MD  
NIDRR Funding: FY 02 $249,997; FY 03 $249,995; FY 04 $249,997; FY 05 $249,999; FY 06 $249,998

Abstract: The UCHSC Burn Model System Data Coordination Center (BMS/DCC) establishes a data management and analytical support facility for Burn Model Systems clinical and outcomes research projects. Objectives include: (1) to serve the clinical, research, and public communities to which it is responsible; (2) to serve the needs of good scientific procedure in multi-institutional outcomes research; and (3) to support the needs for patient safety and data confidentiality as required by Federal regulations when conducting collaborative clinical studies. The BMS Project is structured as a set of interacting, observational, randomized, and quasi-experimental clinical studies run at different centers that share the common purpose of acquiring and disseminating knowledge about burn injury care and rehabilitation. The project offers support in four important areas: project management, data management, analytical support, and dissemination. Support is provided in developing appropriate integrated systems to affect national data collection, project management, data coordination, technical support, collaborative clinical projects, scientific conduct, scientific publication, and effective dissemination. The UCHSC BMS/DCC continues to accumulate and integrate a central repository of data from the Model Systems to enhance their abilities to make sentinel statements and change the way burn injury rehabilitation is done. While the main function of the DCC is to integrate and manage these data, it also needs to be responsive to the technical and analytical needs of these individual clinical centers. In addition the DCC provides and coordinates statistical support among the clinical and statistical groups from each Burn Center and is prepared to expand this support, adding several new protocols and/or clinical studies where appropriate.
Johns Hopkins University Burn Injury Rehabilitation Model System (JHU-BIRMS)

Johns Hopkins School of Medicine
Johns Hopkins Burn Center Adult Unit
Johns Hopkins Bayview Medical Center Pediatric Unit
Johns Hopkins Hospital
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www.hopkinsmedicine.org/burn/research/index.html
www.hopkinsmedicine.org/burn/research/psqscq.pdf

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Project Number: H133A020101
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 02 $298,928; FY 03 $299,995; FY 04 $299,753; FY 05 $298,311; FY 06 $299,911

Abstract: This project tests interventions targeting three common postburn secondary complications affecting health and function: generalized deconditioning, muscle atrophy, and acute stress disorder. Testing the effectiveness of these interventions holds promise for improving the health and function of burn survivors as well as enhancing their options for workplace and community reintegration. The JHU-BIRMS includes several projects: (1) testing the efficacy of its augmented exercise program in rehabilitating people with generalized deconditioning, (2) testing the efficacy of enhanced cognitive-behavioral therapy in treating individuals with acute stress disorder and preventing the development of chronic posttraumatic stress disorder, (3) developing a new measure that quantifies the degree of social stigmatization experienced by burn survivors and its impact on emotional adjustment and integration into the workplace and the community (this project involves the Phoenix Society, the largest foundation supporting burn survivors and their significant others), (4) a collaborative effort with the University of Washington on a workplace integration study identifying and quantifying those factors interfering with early and complete return to work, and (5) a collaborative study on health and function with the University of Texas.
North Texas Burn Rehabilitation Model System (NTBRMS)

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Project Number: H133A020104
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 02 $300,000; FY 03 $300,000; FY 04 $300,000; FY 05 $300,000; FY 06 $300,000

Abstract: This project conducts five research projects, two collaborative and three site-specific: (1) barriers to return-to-work following major burn injury; (2) long-term outcome following major burn injury; (3) outcome following deep, full-thickness hand burns; (4) the evolution over time of burn-associated neuropathy; and (5) the socioeconomic determinants of disability in individuals with burn injury. The North Texas Burn Rehabilitation Model System (NTBRMS) is a collaboration of Parkland Health and Hospital System (PHHS) and the University of Texas, Southwestern Medical Center (UTSW). 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 rural care providers through rural clinics and a biannual seminar. Research collaboration occurs locally with the surgeons and academic computing staff, and nationally with the other model systems.
Model Burn Injury Systems
Texas

Pediatric Burn Injury Rehabilitation Model System

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Project Number: H133A020102
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 02 $300,000; FY 03 $300,000; FY 04 $300,000; FY 05 $300,000; FY 06 $300,000

Abstract: This program conducts independent and multi-center projects focusing on evaluating and improving the rehabilitation provided to the burned child, striving to decrease disability and improve reintegration into society. The project continues longitudinal assessments of patients, expanding the database that includes measures of cardiopulmonary function, physical growth and maturation, bone density, range of motion, activities of daily living, scar formation, reconstructive needs, and measures of psychosocial adjustment. This data is used to identify areas that require improvement and provide functional outcome measures that can be used in the evaluation of treatment methods. Research activities include: (1) a multi-center project assessing the efficacy of the long-term administration of oxandrolone in the treatment of burn injury with endpoints of improved strength, lean body mass, bone density, and growth; (2) improving rehabilitative outcomes for children by instituting and evaluating major modifications to current treatment for children with large burns; (3) evaluating the use of pressure garments in controlling scar following burn injury; (4) a multi-center study evaluating the relationship between treatment, injury, patient characteristics, and patient outcome in those patients sustaining full thickness hand burns; and (5) evaluating acute stress disorder and posttraumatic stress disorder, including its occurrence, predictive elements, and efficacy of treatment.
Model Burn Injury Systems
Washington

University of Washington Burn Injury Rehabilitation Model System

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Project Number: H133A020103
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 02 $300,000; FY 03 $300,000; FY 04 $300,000; FY 05 $300,000; FY 06 $300,000

Abstract: This model system conducts five research projects: (1) A New Approach to the Etiology of Hypertrophic Scarring: develops an increased understanding of hypertrophic scarring. (2) Effect of Virtual Reality on Active Range-of-Motion During Physical Therapy: uses distraction via immersive virtual reality as an adjunctive non-pharmacologic analgesic. This study tests the hypothesis that virtual reality allows patients to tolerate greater stretching during physical therapy compared to no distraction, and that in spite of achieving greater range-of-motion, patients still experience lower pain levels while in virtual reality. (3) Determination of Reasons for Distress in Burn-Injured Adults: identifies reasons behind a burn survivor’s distress at various time-points after hospital discharge. (4) Barriers for Return to Work: identifies specific barriers to return to work for burn survivors. (5) Acute Stress Disorder Among Burn Survivors: evaluates the effectiveness of cognitive-behavioral therapy, relative to a non-directive, supportive therapy control group, and a national comparison sample in reducing the prevalence of posttraumatic stress disorder diagnosis and symptom severity. Projects 4 and 5 are collaborative. In addition this project participates in the national database.
Model Spinal Cord Injury Systems
Alabama

UAB Model Spinal Cord Injury Care System

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Project Number: H133N060021
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 06 $474,471

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.
Model Spinal Cord Injury Systems
California

Regional Spinal Cord Injury Care System of Southern California

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Project Number: H133N000029
Start Date: September 01, 2000
Length: 72 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 00 $345,000; FY 01 $345,000; FY 02 $345,000; FY 03 $345,000; FY 04 $345,000; FY 05 $345,000; FY 06 $0 (No-cost extension through 8/31/2007)

Abstract: The Regional Spinal Cord Injury Care System of Southern California’s primary mission is to collect initial and follow-up data on persons who have sustained spinal cord injuries and submit it to the national statistics database at the University of Alabama at Birmingham. Another component of the project focuses on literacy in individuals with SCI. Also, the project identifies, evaluates, and eliminates environmental barriers, particularly cultural and social barriers, to enable people with SCI to reintegrate fully into their community, and thus improve their lives. The project has been designed to meet the needs of the approximately 75 percent minority and underserved populations that comprise its clientele, and has samples sufficient for achieving adequate statistical power in the relevant designs and producing meaningful research. Finally, the System contributes new and useful information to the current collection of SCI literature. This project contributes to the national statistics database at the University of Alabama at Birmingham.
The Rocky Mountain Regional Spinal Injury System

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Project Number: H133N060005
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $489,000

Abstract: The Rocky Mountain Regional Spinal Injury System (RMRSIS) goals are to: (1) implement a program of research focusing on the immediate and long-term health, function, and community integration and participation of people with SCI; (2) improve its existing lifetime system of care for people with SCI; and (3) continue exemplary participation in the National SCI Database. A site-specific study determines if high vs. low tidal volumes are more effective in achieving ventilator weaning for individuals with high level tetraplegia, using a randomized clinical trial design. A collaborative research module study involves the development of a reliable, valid measurement tool to assess community participation. RMRSIS was first designated as a Regional Model System in 1974. The system 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.
**Model Spinal Cord Injury 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:** Phillip Beatty  
**NIDRR Funding:** FY 06 $449,417

**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 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 (SCUD) 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 SCUD. 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 Pittsburg 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.
Model Spinal Cord Injury Systems
Georgia

Georgia Regional Spinal Cord Injury Care System

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Project Number: H133N060009
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $474,417

Abstract: The Georgia Regional Spinal Cord Injury Care System admits approximately 200 individuals annually with acute onset paralysis secondary to spinal cord injury, and collects post-discharge data on 600 individuals each year. Its patient population comes primarily from Georgia, the rest of the Southeast, and the Eastern Seaboard. The continuum of care begins at injury and continues through transport, assessment, acute care, rehabilitation, emotional adjustment, community reintegration, and lifetime follow-up. The project continues a long record of comprehensive and timely collection of data on subjects who meet the inclusion criteria in three categories: inpatient hospitalization; longitudinal collection at 1, 5, 10, 15, 20, and 25 years post-injury; and registry. In addition to continued model system research, the project conducts two site specific research projects: (2) Psychological Status During Inpatient Rehabilitation and One Year After Onset: Stress, Coping, and Expectation Hope for Recovery; and (2) Development and Validation of a Clinical Measure of Wheelchair Seat Cushion Degradation. The project also manages a collaborative data collection research module entitled Impact of SCI on Labor Market Participation.
Model Spinal Cord Injury Systems
Illinois

Midwest Regional Spinal Cord Injury Care System (MRSCIS)

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Project Number: H133N060014
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 06 $484,000

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 SCI which allow them 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 System 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 (ATM) Module. MRSCICS has the capacity to enroll 140 individuals from culturally diverse backgrounds with new spinal cord injuries annually into the Spinal Cord Injury Model Systems database, and collect follow-up data on individuals enrolled between 1973 and 2000.
Model Spinal Cord Injury Systems
Massachusetts

The New England Regional Spinal Cord Injury Center

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Project Number: H133N060024
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 06 $464,417

Abstract: The New England Regional Spinal Cord Injury Center (NERSCIC), based at Boston Medical Center, continues to forge new pathways in the care and quality of life of people with traumatic spinal cord injury (SCI). Additionally, NERSIC maintains a research partnership with Boston’s Spaulding Rehabilitation Hospital, Northeast Rehabilitation Hospital in Salem, NH, and Gaylord Hospital in Wallingford, CT. NERSCIC conducts innovative research projects to improve health and long-term functioning of patients with SCI through a site-specific project, Computer Adaptive Testing (CAT) for SCI, and a collaborative module, Telehealth for Health. NERSCIC’s site-specific research project involves designing an improved outcome instrument in SCI research using traditional outcome assessment technology that presents difficult choices between comprehensive breadth and precision versus acceptable administration time and respondent burden. To solve this dilemma, 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 has been developed using data collected from a major field study, the project conducts a demonstration of the SCI-CAT to evaluate 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 FIM and SCI-CAT over a six-month follow-up period. The goal of the collaborative research project, Telehealth for Health, is the development and evaluation of an automated, telephone-based screening, referral, and behavioral intervention system with the long-term objective of promoting health and function by preventing and decreasing the severity of important secondary conditions among individuals with acute SCI, namely pressure ulcers, depression, and substance abuse.
University of Michigan Model Spinal Cord Injury Care 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

Abstract: The overall purpose of this project is to provide comprehensive rehabilitation and community participation services and to generate new knowledge through research, development, and demonstration designed to improve outcomes for persons with spinal cord injury (SCI). A site-specific research study is conducted in partnership with faculty from the University of Michigan Depression Center, Department of Psychiatry, and the Molecular and Behavioral Neurosciences Institute. This study is a randomized clinical trial study designed to evaluate the efficacy of a pharmacological agent, Duloxetine (Cymbalta®), as a preventive agent for reducing depression among persons with SCI. This clinical trial addresses a major need in the field as there are no randomized clinical trials currently available on the effectiveness of antidepressants in persons with SCI. In this study, the drug’s effects on pain are also assessed. An outcome of this study is the formulation of recommendations for antidepressant medication use in SCI and implications for clinical practice guidelines. The project continues to operate an efficient data collection system, facilitating research and contributions to the National SCI Database.
Model Spinal Cord Injury Systems
Missouri

Missouri Model Spinal Cord Injury System

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Project Number: H133N000012
Start Date: October 01, 2000
Length: 72 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 00 $300,000; FY 01 $300,000; FY 02 $300,000; FY 03 $300,000; FY 04 $300,000; FY 05 $300,000; FY 06 $0 (No-cost extension through 9/30/2007)

Abstract: The Missouri Model Spinal Cord Injury System (MOMSCIS) is committed to developing, implementing, and evaluating innovative research promoting independent living and community integration among persons with spinal cord impairment. The study focuses on the effect of a consumer-directed personal assistance services training intervention on consumer satisfaction, independent living, and community integration. The study develops, implements, and evaluates the in-person Individualized Management of Personal Assistant/Consumer Teams (IMPACT) workshop. Workshop participants receive information on preventing and treating secondary medical conditions, including pressure sores, urinary tract infections, bowel and bladder management, autonomic dysreflexia, pain management, chronic fatigue, and thermoregulation, and information on relationship issues, such as hiring and firing, communication styles and strategies, assertiveness, and team building. Study objectives are: (1) to determine the effect of the IMPACT workshop on consumer satisfaction, the incidence of secondary conditions, activity, and participation (as defined by the ICF); (2) to determine the effect of the IMPACT workshop on personal assistants’ job satisfaction, job stress and attrition; and (3) to provide online resources to the disability community, including an online personal assistant training manual for consumers and assistants, and an online resources database. Activity and participation are measured by the PARTicipation Survey for persons with Mobility Limitations (PARTS/M).
Northern New Jersey Spinal Cord Injury System

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Project Number: H133N060022
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $457,417

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 significant others from time of injury through long-term follow-up in the community and conducts spinal cord research, including clinical research and the analysis of standardized data. NNJSCIS conducts both a site-specific research study and a collaborative module. These studies contribute to evidence-based rehabilitation interventions and clinical and practice guidelines that improve the lives of individuals with SCI and consist of the following:

An innovative rehabilitation intervention utilizing technology to prevent respiratory disease in persons with SCI, now the leading cause of death and the third leading cause of hospitalizations in this population; a collaborative module that adapts, develops, and validates an innovative and promising outcome system for use in SCI intervention research; and the NNJSCIS coordinates with the NIDRR-funded Model Systems Knowledge Translation Center to provide scientific results and information for dissemination to clinical and consumer audiences. This project is a cooperative effort of the Kessler Medical Rehabilitation Research and Education Corporation (KMRREC), the Kessler Institute for Rehabilitation (KIR), the University of Medicine and Dentistry of New Jersey - The New Jersey Medical School (UMDNJ-NJMS), and UMDNJ-University Hospital.
Mount Sinai Spinal Cord Injury Model System

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Project Number: H133N060027  
Start Date: October 01, 2006  
Length: 60 months  
NIDRR Officer: Dawn Carlson, PhD, MPH  
NIDRR Funding: FY 06 $452,541

Abstract: The research program of Mount Sinai Spinal Cord Injury Model System (MS-SCI-MS) is designed to advance the understanding of spinal cord injury (SCI) and its consequences, and to develop better methods of treatment of secondary conditions of SCI, especially pain. The purpose of this project is to: (1) demonstrate and evaluate a multidisciplinary system of rehabilitation care for persons with SCI in the New York City metropolitan area, including innovative programs for community integration; (2) contribute longitudinal data to the SCI National Database of the Model Systems program; (3) systematically collect and analyze extensive information on chronic pain after SCI. The site-specific project studies modified-release formulation of morphine sulfate for neuropathic pain after spinal cord injury through a randomized, double-blind crossover trial of modified-release morphine and placebo for patients with uncontrolled neuropathic pain of three types.
Model Spinal Cord Injury 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

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. NORSCIS offers a world-class multi-disciplinary system of spinal cord injury care and a 40-year tradition of excellence. 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 to inpatient rehabilitation to outpatient rehabilitation and community support services) are on one 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 UPMC-SCI, 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.
Demonstration of a Model Spinal Cord Injury System Center

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Project Number: H133N000023
Start Date: September 01, 2000
Length: 72 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 00 $370,000; FY 01 $370,000; FY 02 $370,000; FY 03 $370,000; FY 04 $370,000; FY 05 $370,000; FY 06 $0 (No-cost extension through 9/30/2006)

Abstract: The Regional Spinal Cord Injury Center of Delaware Valley (RSCICDV) is a comprehensive program of coordinated patient care, education, and research activities. The RSCICDV: (1) conducts on-site research focusing on improved outcome measures to meet Federally established objectives; (2) refines and improves the RSCICDV’s operational services and demonstration projects; and (3) conducts two development projects including development of an SCI website and development of a Pressure Sore Program. The on-site research includes four experiments: (1) validation of the Walking Index of Spinal Cord Injury (WISCI) scale in a clinical setting for severity and hierarchical ranking; (2) validation of WISCI scale for elements of a disability measure for distance, speed, and endurance into WISCI levels; (3) demonstration that the WISCI scale is responsive to change in a clinical trial setting; and (4) demonstration of consumer preference for walking. The four development projects include: (1) improved access to information via the web site; (2) implementation of a critical pathway for more efficient healthcare delivery; (3) increased employment and advancement of employment through hireAbility; and (4) increased monitoring of pressure sores and strategies for prevention. This project contributes to the national statistics database at the University of Alabama at Birmingham.
Model Spinal Cord Injury Systems
Pennsylvania

Regional Spinal Cord Injury Center of the Delaware Valley

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Project Number: H133N060011
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $464,417

Abstract: The Regional Spinal Cord Injury Center of the Delaware Valley (RSCICDV) provides and evaluates 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 to improve outcomes and reduce medical complications in persons with SCI. Research activities are designed to develop and validate upper and lower extremity outcome measures for use in clinical trials. Specifically, RSCICDV: (1) contributes to the National Database by enrolling an estimated 50 new subjects per year into the database and by collecting follow-up data on previously enrolled subjects; (2) conducts an on-site research project whose focus is to develop and validate the Capabilities of Arm and Hand in Tetraplegia (CAHT), an objective test of arm and hand functional capabilities needed to conduct clinical trials for neurological recovery in SCI; (3) participates in a collaborative module on evaluating an automated phone follow-up system for people with SCI; (4) participates in a collaborative module on validation of an outcome measure for motor recovery in incomplete SCI; and (5) develops educational resources for patients, healthcare providers and researchers.
Model Spinal Cord Injury 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

Abstract: The 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 (CMS) 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 can be 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 assure 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. The research and Model of Care set forth in this proposal will have a significant impact on the lives of individuals with SCI, leading to greater participation and employment.

UPMC-SCI continues to enroll and collect long term follow up data on SCI subjects for the National Spinal Cord Injury Statistical Center.
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

Abstract: The Texas Model Spinal Cord Injury System (TMSCIS) provides services along the entire continuum of care 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 complications. 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% 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 reliability and validity investigations in a minimum of four model systems.
Model Spinal Cord Injury Systems
Virginia

VCU Model Spinal Cord Injury Center

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Project Number: H133N000015
Start Date: October 01, 2000
Length: 72 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 00 $310,000; FY 01 $310,000; FY 02 $310,000; FY 03 $310,000; FY 04 $310,000; FY 05 $310,000; FY 06 $0 (No-cost extension through 9/30/2007)
Abstract: This project develops and implements a Model Spinal Cord Injury System at Virginia Commonwealth University/Medical College of Virginia (VCU/MCV), that has a concentrated emphasis on employment. Researchers within this Model Systems systematically monitor and assess the impact of interventions, advancing technology, and policy changes on employment following SCI. In addition to contributing to the National Statistical Database at the University of Alabama at Birmingham, the VCU SCI Model System has three research studies. These studies include the direct utilization of the SCI National Database, a major employment policy study across 18 states, and also an evaluation of technology training on employment outcome. Involvement of SCI mentors in training new vocational mentors with SCI is also an important aspect of the project. By looking at the issues associated with employment for persons with SCI, this project complements other resources in place within VCU/MCV, including the RRTC on Workplace Supports, long-term relationships with the Virginia Department of Rehabilitation Services, and existing SCI Model Systems delivery of care. A significant number of persons with disabilities are involved as project staff as well as on an Advisory Board. A close relationship with the Mid-Atlantic Paralyzed Veterans Association (PVA) enhances training, dissemination, and other outreach activities.
Model Spinal Cord Injury 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 Agustín, MD
NIDRR Funding: FY 06 $464,417

Abstract: The University of Washington’s Northwest Regional Spinal Cord Injury System (NWRSCIS) serves a critical mass of patients with 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. This project contributes to the national statistics database at the University of Alabama at Birmingham.
Constraint-Induced Movement Therapy Modified for Rehabilitating Arm Function in Stroke Survivors with Plegic Hands

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**Project Number:** H133G050222
**Start Date:** October 01, 2005
**Length:** 36 months
**NIDRR Officer:** Theresa San Agustin, MD
**NIDRR Funding:** FY 05 $149,891; FY 06 $149,954

**Abstract:** Based on positive findings from a pilot study, this project conducts a randomized, controlled clinical trial to rigorously test the efficacy of a modification of Constraint-Induced Movement (CI) therapy for rehabilitating arm function in chronic stroke patients with severe upper-extremity impairment. CI therapy is a rehabilitation method that has been shown in controlled studies to produce large improvements in real-world upper-extremity use in individuals with chronic stroke. Up until now, survivors of stroke with plegic hands have been excluded from CI therapy protocols, whether on a research or clinical basis. In the modified therapy, participants receive CI therapy, combined with other treatment modalities, for six hours per day. The treatment package includes tone management/movement facilitation, training of more-impaired arm use using shaping, functional task practice, restraint of the less-impaired arm in the laboratory and at home, and a package of behavioral methods for transferring gains from the laboratory to the home situation. Participants are also introduced to assistive and orthotic devices that might facilitate use of their more-impaired arm in their daily life.
Field Initiated Projects (FIPs)
California

Improving Muscular Use and Cardio-Respiratory Demand in Spinal-Cord-Injured Patients Performing Functional Electronically Stimulated Leg Cycle Ergonometry

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Project Number: H133G020137
Start Date: January 01, 2003
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 02 $149,971; FY 03 $146,330; FY 04 $144,845; FY 05 $0 (No-cost extension through 12/31/2006); FY 06 $0 (No-cost extension through 12/31/2007)

Abstract: This project develops new stimulation patterns for a functional electrically stimulated (FES) leg cycle ergometer (LCE) that enable persons with spinal cord injuries to exercise with greater benefit. Greater benefit is defined as exercising for a longer period of time and at a higher work rate while involving more leg muscles than is possible with existing ergometers. To reach the general aim, the research is divided into three phases, each directed towards testing a specific hypothesis: (1) normal recumbent pedaling can be simulated using a computational musculoskeletal model of the leg; (2) minimizing muscle fatigue in a forward dynamic simulation of recumbent pedaling yields computed stimulation patterns that enable an individual with SCI to pedal the FES-LCE for longer periods of time, and at higher work rates, than is possible with current stimulation patterns; and (3) using neural stimulation patterns computed from a forward dynamic simulation of recumbent pedaling in which selected muscles of both the upper and lower leg are activated, an individual can pedal the FES-LCE to obtain a greater cardio-respiratory workout than when only upper leg muscles are stimulated.
Field Initiated Projects (FIPs)
California

Development and Evaluation of a Quality of Life Instrument for
Individuals with Adult-Onset Hearing Loss

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Project Number: H133G030191
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 03 $149,980; FY 04 $149,999; FY 05 $149,995; FY 06 $0 (No-cost extension through 9/30/2007).

Abstract: This project develops a standardized, psychometrically rigorous quality of life instrument for individuals with adult-onset hearing loss that is conceptually linked to the full range of functional domains commonly impacted by hearing loss, and which quantifies respondents’ perceptions of domain satisfaction and subjective well-being. Further, the quality of life instrument integrates the new paradigm of disability, whereby environmental, cultural, and personal variables are considered in relation to the individual’s disability. The enhancement of quality of life has recently been recognized as the essential purpose of health care and rehabilitation. Research is showing that it is the individual’s subjective well-being rather than the objective health condition or functional status that determines treatment-seeking behavior, compliance with treatment, and treatment outcome. Individuals with hearing loss represent the single largest disability group in the United States, with prevalence rates rising. Despite the fact that hearing loss often has a profound influence on personal and social adjustment, employment status, and general well-being, few psychological measures currently exist to help assess these effects or evaluate intervention outcomes.
Black-White Disparities in Stroke Rehabilitation

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Project Number: H133G050153
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 05 $149,569; FY 06 $149,999

Abstract: This project analyzes a large existing dataset for disparities in stroke rehabilitation care and outcomes among black and white stroke survivors and determines how rehabilitation treatments and outcomes can be optimized for both groups. Investigators then translate study findings into an actionable quality improvement (QI) plan that rehabilitation centers can use to enhance care for both groups. Researchers use data on 1063 individuals in the 2 racial groups originally acquired from 6 sites in the Post-Stroke Rehabilitation Outcomes Project (PSROP). This project used a practice-based evidence (PBE) method that examined the actual practice of care to identify the practices associated with best outcomes. PBE studies are observational cohort studies that require researchers to specify carefully the nature of the rehabilitation treatments and control exhaustively for the patient differences that may otherwise affect the outcomes. To help generalize the findings of the study, investigators compare study participants with stroke survivors included in eRehabdata, a national database to which 180 rehabilitation facilities report. The study is a collaboration between the National Rehabilitation Hospital in Washington, DC and the Institute for Clinical Outcomes Research in Salt Lake City, UT.
The Impact of Cognitive Impairment and Outcomes Following SCI

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Project Number: H133G030004
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Constance Pledger, EdD
NIDRR Funding: FY 03 $149,642; FY 04 $149,920; FY 05 $149,999; FY 06 $0 (No-cost extension through 12/31/2006)

Abstract: This project is designed to determine whether moderate to severe neurocognitive impairment secondary to comorbid (brain injury) and/or premorbid cognitive disorders (learning disability/attention deficit disorder) negatively impacts functional, health, quality of life, and participation outcomes following SCI. Participants are followed (1) to determine the base rate of neurocognitive disorders in persons with SCI and (2) to establish the relative effect premorbid/comorbid neurocognitive impairment has on functional skills, health status, quality of life outcomes at discharge from inpatient rehabilitation, and participation outcomes at one year following discharge.
Field Initiated Projects (FIPs)
Illinois

Muscle Strength, Physical Work Capacity, and Functional Performance in Individuals with Down Syndrome

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Project Number: H133G040323
Start Date: October 01, 2004
Length: 24 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 04 $149,984; FY 05 $149,591; FY 06 $0 (No-cost extension through 9/30/2007)
Abstract: This project evaluates the minimal muscle strength and endurance thresholds required for daily functional performance, such as rising from a chair, ascending or descending stairs, the ability to walk fast enough to cross a street in the time allotted at signaled intersections, and general walk/run performance. The project also evaluates the effect of resistance training on the ability to perform these daily tasks and on quality of life in individuals with Down Syndrome. This project is built on the premise that most individuals with Down Syndrome have low levels of muscle strength which substantially contribute to functional limitations, poor work capacity, and reduced quality of life. Although many other factors contribute to functional limitations and decreased quality of life in people with disabilities, muscle strength is a consistent major contributor, and muscle strength can easily be addressed in intervention programs.
Three Dimensional Assessment and Rehabilitation of Arm Function Following Stroke

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Project Number: H133G030204
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 03 $149,957; FY 04 $149,926; FY 05 $149,884; FY 06 $0 (No-cost extension through 1/31/2007).
Abstract: The goal of this project is to develop and evaluate the Multi-Axis Cartesian-based Arm Rehabilitation Machine (MACARM) - a new device for the quantitative assessment and rehabilitation of three dimensional arm movements following stroke. As a cost-effective alternative to robotic arm technology, the MACARM utilizes a geometric arrangement of relatively simple, single degree of freedom “Active Modules” to achieve a large workspace and high force and positional performance. The MACARM is founded on the Multipurpose Multiaxial Isokinetic Dynamometer (MMID) originally developed as an exercise system for NASA. The objectives of this project are as follows: (1) to modify the MMID hardware to achieve the force and positional accuracy required for upper limb rehabilitation, (2) to develop MACARM software for upper limb assessment and rehabilitation, (3) to validate the static and dynamic force and positional performance of the MACARM, and (4) to test the MACARM with human subjects, including stroke survivors.
Field Initiated Projects (FIPs)
Illinois

Gait Abnormalities in Individuals with Stroke: Implications to Rehabilitation

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Project Number: H133G040065
Start Date: October 01, 2004
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 04 $149,964; FY 05 $149,981; FY 06 $149,986

Abstract: This project assesses hip kinematics using standard motion analysis technology during overground walking, and kinetics measured during constrained (i.e., sagittal plane restricted) simulated treadmill walking using an instrumented robotic gait orthosis. These behaviors are compared to static measures of both volitional and reflex (stretch) measurements at the hip, knee, and ankle joints of the affected limb. Such measurements are performed in individuals with chronic stroke to identify factors that contribute to abnormal frontal plane behaviors. In individuals with acute stroke, research characterizes the mechanisms underlying development of abnormal frontal plane kinematics throughout the natural recovery and rehabilitation processes. Finally, by providing specific gait retraining paradigms at the initial and chronic stages of injury, the project determines the mutability of abnormal gait kinematics throughout the recovery process.
Field Initiated Projects (FIPs)
Illinois

Enhanced Motor Recovery Using Serotonergic Agents

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Project Number: H133G060124
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $142,710

Abstract: The purpose of this project is to identify changes in voluntary and reflex behaviors, with an emphasis on walking ability, in individuals with stroke following specific pharmacological and physical interventions, with the potential to optimize walking recovery during intensive rehabilitation. This project focuses on improving independent walking ability in individuals with chronic hemiparesis post-stroke. A substantial body of literature demonstrates the effectiveness of body-weight supported treadmill training post-stroke, although the improvements in walking ability may be limited. The project’s goal is to enhance the benefits of training by increasing neural excitability and potentially plasticity by application of serotonergic agents. The approach has two objectives: (1) demonstrate that serotonergic agents can modulate reflex and voluntary motor activity with acute and chronic selective serotonin reuptake inhibitors administration, and (2) accelerate motor performance and walking recovery using combined pharmacological and physical interventions as opposed to either intervention alone.
Rehabilitation of Reaching in Chronic Stroke Using an Anti-Gravity Force Field

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Project Number: H133G060169
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 06 $149,926

Abstract: The major goal of this project is to develop, implement, and evaluate a novel robot-mediated therapy to allow stroke survivors to perform reaching movements while gradually integrating the control of posture and movement. The specific aims of this project are: (1) to characterize deficits in reaching as a function of movement direction, external load, and limb orientation with respect to gravity; (2) to investigate potential mechanisms underlying external load effects on reaching kinematics; and (3) to demonstrate the efficacy of a robot-mediated “anti-gravity” force field to rehabilitate reaching in a group of chronic stroke survivors with moderate or severe impairment. Thirty chronic stroke survivors, matched for initial impairment level, are assigned to either Force Field or Free Reaching protocols. The Force Field group trains movements on the Multi-Axial Cartesian-based Arm Rehabilitation Machine (MACARM). The MACARM is used to implement an elastic virtual table that provides subject-specific partial support of the limb against gravity. The Free Reaching group practices unassisted reaching movements. Both groups train three times weekly for eight weeks, with the goal of increasing reaching extent. Therapeutic efficacy is determined based on pre/post comparisons of the outcome measures provided by Aim 1 and clinical measures of motor function, functional independence, and quality of life. Researchers also evaluate the transfer of training effects to untrained movement directions, load conditions, or limb orientations.
Field Initiated Projects (FIPs)
Massachusetts

A Randomized Trial of Realignment Therapy for Treatment of Medial Knee Osteoarthritis

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Project Number: H133G040201
Start Date: December 01, 2004
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 04 $150,000; FY 05 $150,000; FY 06 $150,000
Abstract: The overall objective of this project is to determine whether the provision of realignment therapy in patients with medial knee osteoarthritis (OA) relieves knee pain and improves function. The project tests the hypothesis that compared to control treatment, the use of realignment therapy (valgus knee brace + motion control shoes + orthosis) is effective in medial knee OA. The specific aims are: (1) To undertake a 24 week randomized crossover clinical trial in patients with medial knee osteoarthritis to determine whether provision of realignment therapy leads to lower pain scores and improved function during the time of this treatment than during the use of a placebo treatment; (2) to perform an open label follow-up study to track use and effectiveness of treatment. This project is co-funded by DonJoy, a knee bracing company.
Field Initiated Projects (FIPs)
Michigan

Psychological and Physiological Aspects of Menopause in Women with Spinal Cord Injury

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Project Number: H133G040274
Start Date: October 01, 2004
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 04 $149,924; FY 05 $149,432; FY 06 $149,855

Abstract: The overall goal of this project is to test the general hypothesis that SCI will moderate the relationship of menopause and health-related outcomes. This research involves two interrelated studies of women with SCI: Study 1 is aimed at examining physical (e.g., secondary conditions), and psychological outcomes (e.g., depression, perceived stress), while Study 2 is aimed at examining physiological outcomes (e.g., body composition, fitness levels). These studies involve a total of 227 women with SCI, men with SCI, and women without disabilities. Study 1 involves three collaborating centers (University of Michigan, Craig Hospital, and Santa Clara Valley Medical Center) in the collection of longitudinal survey data from 207 participants to assess the ability to reliably distinguish secondary conditions of SCI from menopause symptomatology and experience of menopause symptomatology in women with SCI (women without disabilities serve as controls). Men with SCI serve as controls in the first part of this study. Study 2 (University of Michigan only) collects longitudinal data to investigate physiological outcomes menopause in a total of 20 women.
Sensorimotor Training and Assessment in Adults with Hemiplegic Cerebral Palsy: The ULTrA Program

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Project Number: H133G050151
Start Date: December 01, 2005
Length: 36 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 05 $148,810; FY 06 $148,221

Abstract: This project implements a ten-week upper limb training and assessment program (ULTrA Program) for adults with hemiplegic cerebral palsy (CP), a growing yet neglected segment of the CP community. This program is home-based but linked to the research laboratory through the Internet. Prior to and following clinical intervention, a quantitative assessment of upper limb and hand sensorimotor function is made using established motor control techniques. Each participant receives a computer-based upper limb training unit, including high speed Internet connectivity and a training CD. A 40-minute, tailored intervention program is performed six days a week. During three of these training sessions, a student coach assists participants via webcam. During the coaching sessions, movement time and grasp force data are recorded and uploaded to a central website which also serves as a resource for consumers and researchers in the area of mobility in CP across the lifespan. Training in this intervention leads to improved sensorimotor function of the affected limb and improved bilateral coordination in adults with hemiplegic CP. This internet-based program, which utilizes virtual coaches, facilitates adherence to the training program and thus maximizes the benefit of the intervention.
Investigation of the Dynamics of Development of Sitting Postural Control in Infants with Cerebral Palsy

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Project Number: H133G040118
Start Date: December 01, 2004
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 04 $150,000; FY 05 $150,000; FY 06 $150,000

Abstract: The overall goal of this research is to understand the mechanisms underlying the development of postural control in sitting using new methodology, in order to provide a scientific basis for evaluation and treatment of posture and movement disorders in infants with cerebral palsy. The development of early posture control remains poorly understood despite considerable therapeutic effort. Infants with cerebral palsy show their first delays in the acquisition of sitting, with subsequent problems developing adequate posture and movement control. Identifying the delay, determining the nature of the problem, and evaluating the effectiveness of treatment quickly, are vital in the early part of an infant’s life, since this is the time of greatest plasticity. Tools from nonlinear dynamics, which are increasingly being used to examine other biological rhythms, are used in this study to analyze postural sway from center of pressure data during the development of sitting postural control.
Field Initiated Projects (FIPs)
New Jersey

Practical Clinical Trial of Cognitive Rehabilitation in Neurologic Illness

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Project Number: H133G050063
Start Date: November 01, 2005
Length: 36 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 05 $150,000; FY 06 $150,000

Abstract: This project conducts a prospective, randomized, practical clinical trial of intensive cognitive rehabilitation for persons with (non-traumatic) neurologic illness. Neurologic illness is a common condition that impacts personal autonomy, social relatedness, and quality of life. Impairments of cognitive functioning are common after neurologic illness, and are associated with persistent disability. The project evaluates the effectiveness of a program of Intensive Cognitive Rehabilitation (ICRP) compared with a standard rehabilitation program (SRO) for persons with neurologic illness. Participants enrolled from clinical and community-based referrals are randomly assigned to receive a 17-week program of either ICRP or SRO. A broad range of health-related outcome measures are used, including neuropsychological functioning, community integration and social participation, perceived quality of life, and patient-centered view of change.
Impact of Cooling and Exercise on Fatigue in Individuals with Multiple Sclerosis

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Project Number: H133G050198
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 05 $149,999; FY 06 $150,000
Abstract: Multiple Sclerosis (MS) is an inflammatory, demyelinating disease of the central nervous system. The most common symptom of MS is a generalized sense of fatigue. Some distinguishing features of fatigue in MS are that it comes on easily, prevents sustained physical functioning, interferes with an individual’s responsibilities and role performance, and is worsened by heat. To manage fatigue, it has been suggested that individuals with MS should participate in aerobic exercise, plan for rest periods, improve sleep, and avoid heat. The goals of this research study are (1) to assess how work capacity (exercise) and fatigue are affected by different cooling strategies (Phase I), and (2) to determine the effects of a 12-week aerobic exercise program on heat flux and changes in skin and core body temperature (Phase II). In Phase I, 60 subjects with mild to moderate MS-related disability are assessed for physiological changes during four cooling conditions (no cooling, pre-cooling, cooling during exercise, ad libitum cooling). After completion of Phase I, the subjects are randomly assigned to exercise without cooling, exercise with cooling, or control groups for Phase II (a 12-week aerobic cycling exercise program). For Phase II, a baseline maximal graded exercise test to assess cardiovascular function and measures of fatigue and temperature are conducted prior to randomizing the subjects into the three groups. Positive results of the study will lead to a better understanding of treatment (cooling) possibilities and exercise rehabilitation procedures available for individuals with MS.
Naturalistic Action Impairment in Left Hemisphere Stroke: Cognitive Predictors and Consequences

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Project Number: H133G030169
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 03 $149,936; FY 04 $149,319; FY 05 $149,966; FY 06 $0 (No-cost extension through 9/30/2007)

Abstract: This project: (1) provides a detailed analysis of the cognitive and neuroanatomical predictors of naturalistic action (NA) performance in well-characterized individuals who have suffered left hemisphere stroke; (2) clarifies the relationships between left hemisphere apraxia and the performance of NA; (3) identifies the left hemisphere neuroanatomic structures associated with NA impairment; (4) improves the construct validity of the Naturalistic Action Test, a published measure of NA developed by the investigators, by establishing its relationship to tests of apraxia, and extending what is known of its relationships to measures of attention and executive function; and (5) educates rehabilitation professionals and caregivers about results these research goals. Acquired impairment in activities of daily living and instrumental activities of daily living such as meal preparation, dressing, and shopping is a common and persistent consequence of stroke, affecting approximately 50 percent of the nearly four million Americans living with the effects of stroke. Impairment in these NA activities has important consequences for caregiver burden and independence, and predicts future risk of failure to return to work, nursing home admission, and death.
Use of Functional Neuroimaging to Assess the Status of the Attention Networks Following Traumatic Brain Injury

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Project Number: H133G050219
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 05 $149,975; FY 06 $149,996

Abstract: Traumatic brain injury (TBI) is a common cause of disability, particularly in young adults. Survivors of TBI frequently suffer from persistent cognitive impairments that interfere with the rehabilitation process, as well as return to school, work, and community life. Difficulties with attention, including distractibility, difficulty concentrating, difficulty dividing attention (multi-tasking), and cognitive fatigue during effortful tasks, are among the most frequent complaints of survivors of TBI and their caregivers. This project studies the behavioral response and neural network activation patterns associated with performance of three tasks designed to rely heavily on the three distinct attention networks: vigilance, executive, and orienting. The study compares uninjured control participants to survivors of severe TBI, with respect to both behavior and brain activation studied with perfusion, and fast event-related BOLD functional magnetic resonance imaging. The study also compares the performance of TBI survivors on active drug and placebo in two separate pharmacologic probe studies, using single doses of bromocriptine (a D2 dopaminergic agonist) and nicotine (a nicotinic cholinergic agonist), predicting different patterns of responses to the two agents.
Field Initiated Projects (FIPs)
Pennsylvania

Understanding the Determinants of Motor Ability, Self-Care, and Play of Young Children with Cerebral Palsy

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Project Number: H133G060254
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $149,981

Abstract: The specific purpose of this project is to validate a multivariate model of determinants of change in basic motor ability and engagement in self-care and play of young children with cerebral palsy. The objective is to identify the child characteristics, family ecology, and rehabilitation and community services that optimize outcomes. The project targets a subset of children with cerebral palsy who as adults will not walk independently in the community and will require physical assistance for self-care at times throughout the day. Information on the factors that enhance outcomes for these children is particularly needed because families expend considerable time and resources to meet their children’s health, education, and development needs. Knowledge of determinants of children’s change in basic motor abilities and engagement in self-care and play will enable health care professionals and educators to provide evidence-based interventions, support families, and optimize community resources.
Virtual Reality Assessment and Treatment of Hemispatial Neglect

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Project Number: H133G060086
Start Date: December 01, 2006
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $149,593

Abstract: The goal of this project is to address previous limitations in the assessment and treatment of neglect through the use of virtual reality (VR) technology. Hemispatial neglect, a failure to attend to and/or act on objects on the side of space opposite a brain lesion, is a common and persistent consequence of stroke, occurring in approximately 45% of the nearly 2 million Americans who have suffered a right hemisphere cerebral vascular accident. The neglect syndrome is associated with impairments in a wide range of activities of daily living, with significant consequences for functional independence. This project capitalizes on a number of VR’s useful assets, including simulation of the spatial and cognitive demands of real world environments, quantification of aspects of performance, ready control of the experimental task, and ease of administration. The major aims are: (1) to develop and validate a VR navigation task measuring lateralized attention (the VRLAT), an extension of a sensitive VR task developed previously; (2) to perform clinical trials assessing the short-term efficacy of two VR-based treatments for neglect that induce different types of mismatch between proprioceptive and visual information, using the VRLAT as one of the measures of treatment response; and (3) to perform clinical trails of the two treatments focused on generalization and maintenance of gains with a longer course of treatment.
A Study of Biophysical and Microvascular Function of Individuals with SCI: Implications for Alternating Pressure Support Surfaces

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Project Number: H133G040222
Start Date: October 01, 2004
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 04 $149,246; FY 05 $149,115; FY 06 $149,187

Abstract: The specific aims of this research study are to: (1) characterize blood flow control mechanisms (e.g. metabolic, neurogenic, and myogenic controls) via laser Doppler blood flow using Wavelet analysis in individuals with SCI; (2) investigate the use of alternating pressure for enhancing skin blood flow in SCI; (3) compare the effect of neurogenic control of cutaneous microcirculation on the strength of blood flow responses to alternating pressure in SCI with T-6 above and below; and (4) compare the effect of soft tissue properties on the strength of blood flow responses to alternating pressure in SCI with T-6 below and unimpaired subjects. These studies provide insight into mechanisms important to the configurations of optimal parameters for enhancing blood flow in SCI population, and provide a valid method for the evaluation of alternating pressure devices.
Field Initiated Projects (FIPs)
South Carolina

Risk for Early Mortality After Spinal Cord Injury

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Project Number: H133G030117
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 03 $149,984; FY 04 $149,996; FY 05 $149,964; FY 06 $0 (No-cost extension through 9/30/2007)

Abstract: This project identifies the relationships of life adjustment, quality of-life, activities, fitness, and secondary conditions with length of survival and causes of death after SCI. Two studies utilize distinct prospective data sets. The data for study 1 was collected from 362 participants in 1990/1991, whereas the data for study 2 was collected from 597 participants in 1995/1996. Similar, but not identical, measures were obtained from each of the two study samples. Current mortality status is identified using the National Death Index and the Master Beneficiary Record and Summary Earnings files from the Social Security Administration. The most basic biographic and injury related variables are entered as a block first as statistical controls. The general life adjustment and health variables and the more specific secondary conditions variables, none of which have been the focus of previous studies, are investigated in more detail in relation to mortality, as they hold the greatest promise for intervention.
A Longitudinal Study of Risk for Hospitalization, Pressure Ulcers, and Subsequent Injuries After Spinal Cord Injury

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Project Number: H133G050165
Start Date: December 01, 2005
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 05 $149,992; FY 06 $149,995

Abstract: The onset of spinal cord injury (SCI) increases the risk for the development of a number of secondary conditions that may adversely impact an individual’s life and even result in early mortality. The purpose of this project is to perform a longitudinal study to identify protective and risk factors associated with the onset of multiple types of adverse health events among a large sample of individuals with SCI. In 1997-8, prospective data was collected on 1,391 participants who included a substantial number of women (n = 362) and racial/ethnic minorities (n = 359). Risk and protective predictors were selected based on a general empirical risk model. Predictor variables were first measured over a 10-month period in 1997-1998, including: (a) biographical status, (b) injury status, (c) psychological status, (d) environmental factors, and (e) health behaviors. Several health outcomes measures were also used. During this follow-up study, the project administers several new predictor measures along with multiple outcome measures, several of which were also administered during the previous study. These measures focus on adverse health events including hospitalizations, onset of pressure ulcers, subsequent injuries, and the onset of probable major depression. The project includes structural equation modeling to develop risk models for each outcome. A consumer advisory committee meets bi-annually to make recommendations regarding all components of the project. The ultimate study goal is to enhance the lives of people with SCI by identifying the risk and protective factors associated with adverse health events to serve as a foundation for prevention efforts by rehabilitation and public health professionals. This directly empowers consumers to improve their own health by being provided with concrete information and recommendations to promote better health and avoid preventable secondary health complications.

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Project Number: H133G060126
Start Date: December 01, 2006
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $149,954

Abstract: The purpose of this 35-year longitudinal study is to identify the natural course of changes in participation, health, and subjective well-being among five cohorts of participants with spinal cord injury (SCI). Data were first collected in 1973 from 256 participants, 78 of whom have participated throughout the study. Using a revolving panel longitudinal design, participants are followed over time with new participant samples added to counter attrition. To date, there have been a total of 2,208 different participants over the 6 times of measurement, including nearly 100 who have lived 40 or more years with SCI. This study is the seventh stage of data collection and addresses not only the natural course through analysis of both cross-sectional and multiple longitudinal elements, but also special issues including quality of life and termination of employment, change in living circumstance to a more restrictive environment, and the role of environmental factors on stability of health and quality of life. There are three primary activities: (1) finalization of instrumentation, based on consumer panel recommendations and pilot testing; (2) primary data collection; and (3) consumer initiated development of recommendations for healthy living with aging for consumers and policy recommendations for rehabilitation professions and legislators.
Field Initiated Projects (FIPs)
Tennessee

The Relationship Of Minimal Sensorineural Hearing Loss (MSHL) to Psycho-educational Development

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Project Number: H133G050211
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 05 $150,000; FY 06 $150,000

Abstract: The objectives of this study are to identify young school-aged children with minimal sensorineural hearing loss (MSHL) and to assess the relationship of MSHL to psycho-educational development. MSHL is defined for three distinct populations of children: (1) children with unilateral sensorineural hearing loss, (2) children with bilateral minimal sensorineural hearing loss with thresholds averaging 20-40 dB, and (3) children with high frequency sensorineural hearing loss above 2000. The project identifies young children with MSHL and their counterparts with normal-hearing matched for age, sex, gender, and SES controls in kindergarten, first, and second grade. The educational and functional status of these two groups is then compared. During a two-year period, approximately 300 children undergo a series of evaluations at least one year apart. The results from this project disclose new information concerning the psycho-educational problems experienced by young children with MSHL. In addition, the longitudinal data from this project provides new knowledge about the developmental trajectory of children with MSHL. Moreover, the data provided by this research allows for the development of a profile specifying the characteristics of young children with MSHL who are at significant risk of developing later academic and functional deficits. Finally, findings from this study facilitate the development of effective identification and intervention strategies for this population of children.
Cost Effectiveness of Rehabilitation Following Traumatic Brain Injury

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Project Number: H133G030144
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 03 $150,000; FY 04 $150,000; FY 05 $150,000; FY 06 $0 (No-cost extension through 9/30/2007)

Abstract: This project researches the effectiveness of rehabilitation on two new cohorts of persons with TBI who have either received or not received comprehensive inpatient rehabilitation. At one year post injury, costs for services the persons with TBI are likely to receive and vocational losses are calculated and adjusted for demographic, socioeconomic, and neurological variables. The differences between the costs and vocational losses between the two groups are then compared to the actual reimbursements for comprehensive inpatient rehabilitation services.
Field Initiated Projects (FIPs)
Washington

Efficacy of Pressure Garment Therapy After Burns

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Project Number: H133G050022
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 05 $150,000; FY 06 $150,000

Abstract: This project conducts a randomized, controlled trial to determine the efficacy of custom-fit pressure garment therapy in the prevention of hypertrophic scarring in healed burns so that the garments may be prescribed based upon sound data or discontinue their use in burn care. Hypertrophic scarring is one of the most devastating outcomes following burn injury. Pressure garments are the common therapy to minimize these effects. However, these garments are unattractive, expensive, and uncomfortable, and their use needs to be validated by rigorous research. The objective of this project is to determine the efficacy of this therapy in the prevention of hypertrophic scarring in healed burns so that prescription of them may be based upon sound data or discontinue their use.
Field Initiated Projects (FIPs)
Wisconsin

Fracture Risk Prediction in Children and Adults with Osteogenesis Imperfecta (OI)

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Project Number: H133G050201
Start Date: November 01, 2005
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 05 $150,000; FY 06 $150,000

Abstract: This project develops an accurate biomechanical model of the lower extremities to better understand, predict, and ultimately rehabilitate and better control fracture occurrence in children and adults with Osteogenesis Imperfecta (OI). State-of-the-art technologies including nanoindentation, 3-D gait analysis, and finite element analysis are employed in the development process, in addition to an array of clinical assessment tools. A primary design goal includes model flexibility for more universal yet specific application in children and young adults with OI. This work uses the novel technology of nanoindentation to better characterize the structural properties of OI bone in children and young adults. For this parallel portion of the work, bone samples are gathered during routine reparative surgery from thirty-four individuals (children and young adults) with OI who have experienced fractures. The bone is then analyzed to determine strength, stiffness, modulus, and brittleness/ductility at the trabecular level. Results are compared to current published studies and used to significantly enhance the existing data. This project constructs a finite element model of the lower extremities. In addition to published material property data, input for the model comes from 3-D quantitative gait studies (for constraints and boundary conditions) and the parallel nanoindentation studies (for material property data). The resulting model accurately reflects the structural anatomy, mechanical properties, and loads on the long bones of the lower extremities. The model is flexible and specifically fit to the study participants’ bony geometry on the basis of radiographs. During the course of the study, the model boundary conditions will be altered to explore the influence of factors such as bone size, geometry (bowing), bone structure, and functional loading on the development of fractures. A comparison of model parameters to clinical assessment results provides critical insight with regard to fracture development, therapeutic intervention, and longer-term outcomes.
Field Initiated Projects (FIPs)
Wisconsin

Adverse Outcomes Following Inpatient Rehabilitation: Trends and Reasons

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Project Number: H133G060218
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 06 $149,129

Abstract: Research is needed to develop the knowledgebase and tools necessary to address the problem of increased rates of mortality and hospitalization following inpatient rehabilitation and to examine explanations for adverse outcomes. Descriptive analyses are conducted first to describe important trends in mortality and rehospitalization and to provide a basis for further analyses. Multivariate risk adjustment models – based on impairments, functional level, age, and other patient characteristics in extant databases – are then developed to predict adverse outcomes. These risk adjustment models provide the necessary basis to distinguish the effects of patient severity and caseload from other factors that affect adverse outcomes. Researchers then examine and test the effects of important facility characteristics that may affect rates of adverse outcomes. The primary outcomes to be studied are mortality and rehospitalization; functional decline is also studied, as it, too, may indicate medical instability, and all three outcomes may - or may not - be predicted and affected by the same set of factors.
Conservative and Surgical Clubfoot Treatment: Multi-Center Study

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Project Number: H133G060252
Start Date: January 01, 2007
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $150,000

Abstract: This study is designed to compare the longer-term effects of two methods of clubfoot treatment: (1) the conservative Ponseti technique of manipulation and casting and (2) progressive surgical release. Clubfoot is a congenital foot deformity occurring in 1 in 1,000 births. It is commonly treated at pediatric orthopaedic hospitals and its incidence has been constant and not expected to decrease. Treatment is ideally accomplished early in life, within the first year, and is often successful in accomplishing a satisfactory, plantigrade foot, which will fit in shoes. Little is known, however about the function of treated clubfeet. This project investigates the longer-term outcome of children with treated clubfoot deformity using patient-based outcomes, functional instruments, motion analysis, radiological assessment, and postural stability. The objective is to determine whether functional outcomes, postural stability, and gait analysis characterize overall patient satisfaction and motor performance and to quantify the effects of orthopaedic interventions.
A Low Cost, High Resolution Pressure Mapping System for the Prevention of Pressure Ulcers

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Project Number: H133S040134
Start Date: October 01, 2004
Length: 24 months
NIDRR Officer: Delores Watkins

NIDRR Funding: FY 04 $249,928; FY 05 $249,197; FY 06 $0 (No-cost extension through 9/30/2007)

Abstract: Pressure ulcers are a serious medical problem with annual treatment costs over $1 billion. While the exact etiology involves a complex combination of factors, it is generally accepted that prolonged pressure to soft tissues results in discrete areas of acute ischemia. If the pressure is not relieved and the blood supply restored in a critical length of time, endothelial cell damage will result and eventually necrosis will occur. While it is a common and serious condition for individuals who are confined to beds or wheelchairs, the occurrence of pressure sores can be drastically reduced by frequent changes in one’s body position. As a result, a number of companies have developed pressure-mapping systems to provide caregivers, patients and researchers important feedback regarding physical position history. This project builds upon previous research to develop a novel optically based pressure mapping system and compare its performance to existing systems in clinical settings. The design, based on mature optical technology, has the physical characteristics of a thin sheet of flexible plastic. Given its sensitivity to pressure, this technology can be adapted for medical device applications. If successful, these disposable sensor sheets can be inexpensively applied to large areas, unobtrusively conform to any surface with minimal alteration of the tissue interface, and provide high resolution pressure maps.
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.

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RERC on Spinal Cord Injury: Keep Moving: Technologies to Enhance Mobility and Function for Individuals with Spinal Cord Injury

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Project Number: H133E020732
Start Date: November 01, 2002
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 02 $899,974; FY 03 $899,932; FY 04 $899,882; FY 05 $899,961; FY 06 $899,951

Abstract: This RERC improves the lives of individuals with SCI by promoting their health, safety, independence, and active engagement in daily activities. Activities include: (1) monitoring trends and evolving product concepts that represent future directions for technologies in SCI, (2) conducting research to advance the state of knowledge, (3) disseminating the information to the population, (4) developing and testing prototype devices that are useful and effective and transferring them to the marketplace, (5) advancing employment opportunities for individuals with SCI, and (6) developing ways to expand research capacity in the field of SCI. The R&D program is focused on a key issue for individuals with SCI, the need to maintain mobility for as long as possible in order to enhance independent function. A survey of the user population determines where areas of greatest need exist. An active Mobile Arm Support for adults allows those with limited arm function greater independence. The shoulder-preserving wheelchair, gait training robotic assist device, and adaptive exercise equipment are all specifically geared to preserve or enhance mobility in individuals with SCI. A project on optimized wheelchair suspension keeps people mobile by increasing comfort and reducing tissue loading.
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: H133E060001  
Start Date: August 01, 2006  
Length: 60 months  
NIDRR Officer: Thomas Corfman  
NIDRR Funding: FY 06 $950,000

Abstract: This Center conducts a program of research and development to enhance the independence of blind, visually impaired, and deaf-blind individuals. Research includes investigation of assessment methods to guide rehabilitation of infant cortical visual impairment; practical innovations in assessment and interventions for elders with visual impairments; and development of independent assessment guidelines for emerging visual prostheses. The Center also conducts research in access to graphical information for blind, visually impaired, and deaf-blind persons, developing tools for rapid screen overview, auditory and tactile graph presentation, image classification, and on-demand production of tactile street maps. To address signage and travel information, the project is investigating information interfaces for travelers who are blind or visually impaired, and innovative computer vision methods to find and read existing print signs and labels. To address the rising barriers to accessing visual displays and appliances for employment and daily living, there is a designer education campaign and development of a universal talking LCD/LED display reader, practical consumer tools, and jobsite adaptations for employees who are blind or visually impaired. Other projects include development of a new-generation robotic finger-spelling hand for deaf-blind communication, and pilot investigations of difficulties in lipreading and sign language reading experienced by those with combined auditory and visual impairment.
Rehabilitation Engineering Research Centers (RERCs)
Colorado

Rehabilitation Engineering Research Center for the Advancement of Cognitive Technologies (RERC-ACT)

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Project Number: H133E040019
Start Date: November 01, 2004
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 04 $850,000; FY 05 $850,000; FY 06 $850,000

Abstract: The goal of this RERC is to research, develop, evaluate, implement, and disseminate innovative technologies and approaches that will have a positive impact on the way in which individuals with significant cognitive disabilities function within their communities and workplace. The Center incorporates: (1) a consumer-driven model for identifying the most significant barriers to independent living and workforce; (2) an approach that is balanced and uses both well-established and newly emerging technologies in its development projects; (3) a focus both on functional limitations and specific disabilities; and (4) mutually beneficial partnerships with private industry and public agencies. Research activities include: Needs, knowledge, barriers, and uses of AT by persons with cognitive disabilities; technology for remote family support for people with cognitive disabilities; influences on AT use, non-use, and partial, and inappropriate use by persons with traumatic brain injury; AT enhancement of written expression for children and adults; needs assessment for creating affordable, context-aware technologies; and technology to promote decision-making skills and self-determination for students with cognitive disabilities. Development activities include: Design, implementation, and deployment of context aware technologies for persons with cognitive disabilities residing in community living environments; development of HealthQuest, an Internet-based product that enables individuals with intellectual disabilities to become active participants in their own health care; XML repository of common tasks; batteryless micropower sensors for context aware technologies; perceptive animated interfaces for workforce training; and environmentally appropriate behavioral cues for individuals with TBI.
Rehabilitation Engineering Research Centers (RERCs)
District of Columbia

Rehabilitation Engineering Research Center on Hearing Enhancement

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Project Number: H133E030006
Start Date: October 01, 2003
Length: 60 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 03 $949,999; FY 04 $949,024; FY 05 $949,480; FY 06 $949,998
Abstract: The mission of this RERC is to build and test components of a new, innovative model of aural rehabilitation tools, services, and training, in order to improve assessment and fitting of hearing technologies and to increase the availability, knowledge, and use of hearing enhancement devices and services. Component A: (1) develops and evaluates new methods for field evaluation and fitting of hearing aids; (2) develops and evaluates techniques to enhance auditory self-monitoring; and (3) develops methods for predicting the speech-to-interference ratio and intelligibility of speech for a hearing aid when used with a wireless telephone. Component B conducts a needs assessment survey of people who use hearing technologies and evaluates the use of Bluetooth technology as a means of improving and expanding wireless connection to a hearing aid. Component C investigates environmental factors affecting children’s speech recognition abilities in classroom settings. Component D investigates the use of distortion product otoacoustic emission and reflectance for diagnosis of hearing loss and tinnitus; and creates and standardizes sets of synthesized nonsense syllables for use in hearing aid research. Component E develops a new, innovative model for the delivery of aural rehabilitation services to adults with hearing loss. In addition the RERC conducts a program of training and dissemination that will reach a diverse audience of people, both consumers and professionals.
Rehabilitation Engineering Research Center on Technology for Successful Aging

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Project Number: H133E010106
Start Date: October 01, 2001
Length: 60 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 01 $900,000; FY 02 $900,000; FY 03 $899,999; FY 04 $900,000; FY 05 $899,999; FY 06 $0 (No-cost extension through 9/30/2007)

Abstract: The RERC-Tech-Aging conducts research, development, education, and information dissemination work on technology for successful aging. Projects of the RERC focus on the closely related areas of communications, home monitoring, and “smart” technologies. The technology driving the focus for this RERC is developing rapidly and requires an understanding of current and emerging technology areas, including wireless technology, computers, sensors, user interfaces, control devices, and networking. Successful integration of this technology into products and systems for older persons requires an understanding of their complex health, independence, and quality-of-life issues. The RERC-Tech-Aging tests currently available home monitoring products and demonstrates their effectiveness in relation to independence, quality of life, and health related costs. The RERC-Tech-Aging also identifies needs and barriers to home monitoring and communication technology, and addresses needs of special populations including rural-living, elders, and people aging with disability. The RERC-Tech-Aging brings together national expertise to meet this challenge, including major universities, industry leaders working in this area, major aging or aging-related organizations, major federal agencies that relate to funding or services in this area, other NIDRR-funded RERCs and RRTCs, and service-related organizations that assist in identifying study participants.
Rehabilitation Engineering Research Center on Mobile Wireless Technologies for Persons with Disabilities

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Principal Investigator: Helena Mitchell, PhD; Michael Jones, PhD (Shepherd Center); John Peifer (Georgia Tech) 404/894-0058 (Mitchell); 404/350-7595 (Jones); 404/894-7028 (Peifer)

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Project Number: H133E010804
Start Date: October 01, 2001
Length: 60 months

NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 01 $1,000,000; FY 02 $1,000,000; FY 03 $1,000,000; FY 04 $1,000,000; FY 05 $1,000,000; FY 06 $0 (No-cost extension through 12/31/2006)

Abstract: This RERC develops appropriate and effective applications of wireless technologies that enhance the independence of people with disabilities. With an overall goal of promoting the independence and autonomy of people with disabilities, the RERC has two primary aims: (1) ensure equitable access to mobile wireless products and services by people with disabilities of all ages and abilities; and (2) investigate promising applications of mobile wireless technologies in support of employment, independent living, and community integration of people with disabilities. To accomplish these aims, the RERC is organized into three main sections: (1) the Research section investigates needs, policies, and promising applications of mobile wireless technologies to promote independence. Research initiatives include assessment of user needs, evaluation of emerging technologies, and policy initiatives that influence the practices, policies, and regulations that affect accessibility of wireless technologies; (2) the Development section includes projects that address universal access, investigation of new applications of wireless technologies, and innovative design solutions to support independent living of people with disabilities; (3) the Training and Dissemination section promotes the synthesis of new knowledge into practice.
Rehabilitation Engineering Research Centers (RERCs)
Georgia

Rehabilitation Engineering Research Center on Workplace Accommodations

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Project Number: H133E020720
Start Date: November 01, 2002
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 02 $899,997; FY 03 $900,000; FY 04 $899,999; FY 05 $899,999; FY 06 $900,000

Abstract: This RERC identifies, designs, and develops devices and systems to enhance the workplace productivity of people with disabilities. Universal design is a primary focus of the Center: making the design of products and environments usable by all workers to the greatest extent possible, without the need for adaptation or specialized design. The RERC’s research projects evaluate existing workplace products and services and determine areas where further product development is needed. The Center also studies archival materials to identify factors that contribute to successful or unsuccessful outcomes, and analyzes policies and practices that may influence the nature and availability of workplace accommodations for persons with disabilities. The RERC’s development activities focus on Remote Services and Universal Design in the Workplace. The Remote Services projects investigate ways that remote technologies such as videoconferencing and telework can be used to facilitate employment and provide technical support services to people with disabilities. The Universal Design projects work with manufacturers to develop new generations of universally designed and accessible products. Digital human modeling tools developed by the project provide visualizations of products or systems with human interaction and movement and reduce the need for preliminary physical prototypes. Products are developed for workers in office, manufacturing, retail/sales, service industry, and other environments. Finally, training, technical assistance, and dissemination activities on workplace accommodations and universal design promote the transfer of new knowledge into practice.
Rehabilitation Engineering Research Centers (RERCs)
Georgia

Rehabilitation Engineering Research Center on Wheeled Mobility

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Project Number: H133E030035
Start Date: November 01, 2003
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 03 $949,988; FY 04 $949,951; FY 05 $949,975; FY 06 $949,998

Abstract: The goal of this RERC is to undertake a major shift in the way wheeled mobility is conceptualized and understood, from the design of assistive devices that enable some individuals to perform some activities, to the design of a broad range of interventions that enable as many individuals as possible to actively engage and participate in everyday community life. Research activities include: (1) User Needs and Design Input uses participatory focus groups to identify needs of wheelchair users; (2) User Needs of Older Adults assesses the needs of older adults living at home and in other residential settings; (3) Effects of Environment and Mobility Technology on Participation and Activity measures the influences of environmental barriers and specialized wheelchair technology on participation and activity in everyday life; (4) Efficacy of Animation and Visualization Training uses computer simulation techniques to investigate their efficacy in improving mobility training; and (5) Clinical and Functional Implications of Seating Standards and Guidelines studies the relationship between standardized measures of cushion performance and actual impact on wheelchair users. Development efforts include: (1) development and marketing of new mobility devices in collaboration with industry design partners; (2) development of a wheelchair for frail elders that can be used in any residential environment; (3) interventions to overcome barriers to participation including guidelines and technologies to help wheelchair users overcome environmental and technological barriers; (4) development of animation and visualization training through computer simulations to improve training in transfers and outdoor mobility; and (5) development of valid wheelchair cushion test methods which enables clinicians to prescribe appropriate wheelchair cushions based on positioning and load distribution.
Rehabilitation Engineering Research Centers (RERCs)
Georgia

Rehabilitation Engineering Research Center for Wireless Technologies

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Project Number: H133E060061
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 06 $949,999

Abstract: The Rehabilitation Engineering Research Center for Wireless Technologies’ mission is to: (1) promote equitable access to and use of wireless technologies by persons with disabilities; and (2) encourage adoption of Universal Design in future generations of wireless technologies. To accomplish these aims, the RERC is organized into three main project sections: The Research Section is comprised of four research initiatives: Facilitating User Centered Research is designed to establish a research portal that communicates to industry the needs of people with disabilities for wireless technologies. Customer-driven Usability Assessment enhances the usability of future generations of cell phones and other wireless products by developing a methodology for assessing their usability by representative users with disabilities. Collaborative Policy Approaches to Promote Equitable Access develops, implements, and evaluates specific policy initiatives related to accessible wireless technologies and services. Advanced Auditory Interfaces develops, tests, and disseminates guidelines for the design of advanced auditory interfaces for cell phones and other handheld electronic devices. The Development Section includes four projects that promote equitable access to and use of wireless technologies by persons with disabilities through the development of prototype designs: Alternative Interfaces continues its work on the V2 standards for universal remote consoles and Real-time Location-based Information Services expands on previous work on the RERC’s personal captioning system by addressing the needs of patrons with vision or hearing impairments in three different venues – exhibit spaces, airports, and hospitals. Development of Wireless Emergency Communications and Ensuring Access to Emergency Assistance both focus on the area of wireless emergency communications for people with disabilities; developing wireless communication technology to be used by emergency personnel to contact individuals with disabilities, and by people with disabilities to signal the need for assistance. The Training and Dissemination Section promotes the synthesis of new knowledge into practice with the RERC’s State of the Science conference and a number of initiatives designed to educate consumers, providers, and other professionals, including: university courses, an annual student design competition, conference tutorials and workshops, all geared toward access and usability of mobile wireless technologies.
Rehabilitation Engineering Research Center on Recreational Technologies and Exercise Physiology Benefiting Persons with Disabilities (RERC RecTech)

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Project Number: H133E020715
Start Date: November 01, 2002
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 02 $899,536; FY 03 $899,725; FY 04 $899,942; FY 05 $899,756; FY 06 $899,952

Abstract: This program researches access to recreational opportunities and physical endurance of people with disabilities, targeting four primary areas: (1) increased access to fitness and recreation environments; (2) interventions to increase physical activity and recreation participation; (3) adherence strategies to reduce physical activity relapse and dropout rates; and (4) randomized clinical trials to evaluate improvements in health and function. Research and development projects include: (1) a comprehensive needs assessment that involves ongoing assessment of consumer needs as they pertain to existing and emerging recreational and fitness technologies; (2) research on the use of information technology and a newly designed environmental accessibility instrument for facilitating access to recreational and fitness environments and promoting improved health and function; (3) research on the use of “teleexercise” technology for promoting participation and for monitoring intensity and physiological/psychological outcomes of home-based exercise programs; (4) research and development of technology to create virtual exercise environments to promote greater adherence to exercise and thereby improved health and function; (5) development of technology to allow users adaptive control of exercise machines; (6) development of broadly applicable aftermarket accessory kits for adapting existing cardiovascular exercise equipment for use by people with disabilities and determining the efficacy of the new adaptations in improving fitness; and (7) development of an online RecTech solutions database of currently available recreational and fitness technologies to make available solutions more accessible to consumers. Two training projects promote capacity building for future recreation, fitness, exercise physiology, engineering, and rehabilitation professionals, and two additional training projects support professional development.
RERC on Rehabilitation Robotics and Telemanipulation: Machines Assisting Recovery from Stroke (MARS)

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Principal Investigator: W. Zev Rymer, MD, PhD 312/238-3919
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Project Number: H133E020724
Start Date: November 01, 2002
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 02 $805,453; FY 03 $874,845; FY 04 $896,518; FY 05 $888,042; FY 06 $888,102

Abstract: MARS-RERC focuses its research and development on restoring function in hemispheric stroke survivors. Five projects assess different approaches that have the potential to improve performance of the upper extremity, and one project attempts to restore gait and fluid locomotion to the lower extremities. These projects include: the ARM Guide, a robotic therapy for force training of the upper extremity in chronic hemiparetic stroke; Lokomat-Gait restoration in hemiparetic stroke patients using goal-directed, robotic-assisted treadmill training; Augmented Reality Robotic Rehabilitation, which is in the development of a robotic system with an augmented reality interface for rehabilitation retraining of arm function for brain-injured individuals; Robotic Assisted Finger Extension, rehabilitation of finger extension in chronic hemiplegia; and T-WREX, a home-based telerehabilitation system for improving functional hand and arm movement recovery following stroke utilizing an anti-gravity orthosis and video games to track progress. In addition to these projects, MARS-RERC purpose is train undergraduate engineering students, medical students, physician residents, graduate students in engineering and neuroscience, and allied health clinicians, including physical and occupational therapists in the area rehabilitation robotics. The broad intent of MARS-RERC is to develop robotic devices or machines that assist the therapist in providing treatments that are rationally based, intensive, and long in duration. This project is a collaboration of the Rehabilitation Institute of Chicago (RIC), the Catholic University of America (CUA) and National Rehabilitation Hospital in Washington, D.C., the University of Illinois at Chicago (UIC), and the University of California at Irvine (UCI).
Rehabilitation Engineering Research Centers (RERCs)
Illinois

Rehabilitation Engineering Research Center in Prosthetics and Orthotics

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Project Number: H133E030030
Start Date: October 01, 2003
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 03 $949,998; FY 04 $950,000; FY 05 $949,999; FY 06 $950,000
Abstract: This Center conducts ten research projects, three of which are pilot studies. In the area of human locomotion the objectives are to conduct quantitative studies that include non-disabled gait, modeling of gait, roll-over shape influence on transtibial amputee gait, gait initiation, shock absorption studies, the role of the spine in walking, transfemoral socket design studies, and evaluation of stance-control orthotic knee joints. Pilot studies, where preliminary data is not available, are proposed on partial foot prosthesis/orthosis systems, on evaluation of Ankle Foot Orthoses and on the design of a Shape & Roll foot for children. Six developmental projects include a simple gait monitoring instrument (Direct Ultrasound Ranging System), a new prosthetic ankle joint that adapts to inclines, and a manual through which individuals in low-income countries can make their own artificial feet. In addition, two upper-limb prosthetics development projects are proposed that deal with reaching, manipulation, and grasping. Finally, an outcomes measurement tool is developed for prosthetics and orthotics (P&O) facilities in their reporting to the American Board of Certification. The vision for this RERC is to improve the quality of life for persons who use prostheses and orthoses through creative applications of science and engineering to the P&O field. The goal is to uncover new knowledge and understanding in P&O and to bring more quantification to the field, which will enable them to develop new concepts and devices to improve the quality, cost-effectiveness, and delivery of P&O fittings.
Rehabilitation Engineering Research Centers (RERCs)
Illinois

Rehabilitation Engineering Research Center on Technology Access for Landmine Survivors

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Project Number: H133E030017
Start Date: November 01, 2003
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 03 $950,000; FY 04 $950,000; FY 05 $950,000; FY 06 $950,000

Abstract: The Center strives to improve the quality and availability of amputee and rehabilitation services for landmine survivors by focusing on the development of “appropriate technology”, i.e. technology that is most suitable to the limited technical and human resources available in most mine-affected regions through the application of research methodologies, the development of mobility aids, and the creation of educational materials, all of which are designed specifically for mine-affected populations and disseminated through a network of rehabilitation service providers in mine-affected regions. Laboratory-based research projects investigate issues of importance relating to transtibial alignment, ischial containment socket trim lines as they relate to the gait of transfemoral amputees, and the evaluation of a non-toxic resin for the direct lamination of prosthetic sockets. Field-based research evaluates an anatomically-based transtibial alignment methodology and a wheelchair prototype manufacturing and dissemination strategy. Development projects, many of which contain research components, can be classified into two areas: those that improve the service delivery through improved fabrication techniques, and those that develop appropriate prosthetic components and mobility aids. In order to promote the successful transfer of techniques and technologies that are developed, the RERC creates training materials that describe the manufacture, assembly, and use of the technique or devices developed under the research and development program. Additionally, because the current number of trained prosthetic technicians in developing countries is far from sufficient to adequately meet the needs of landmine survivors, the center produces education and training materials covering the basic science of prosthetics and orthotics. All materials are adapted to the specific languages, culture, and needs of the mine-affected regions served by the RERC and distributed through a blended distance learning network.
Rehabilitation Engineering Research Center on Wheelchair Transportation Safety

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Principal Investigator: Lawrence W. Schneider, PhD (Michigan); Patricia Karg, PhD (Pittsburgh); Gina Bertocci, PhD (Louisville); 734/936-1103 (Schneider)

Public Contact: Lawrence W. Schneider, PhD 734/936-1103; Fax: 734/647-3330

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

Abstract: Research conducted by the RERC 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 Jersey

Rehabilitation Engineering Research Center on Children with Orthopedic Disabilities

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Project Number: H133E050011
Start Date: November 01, 2005
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 05 $949,700; FY 06 $949,646

Abstract: The Rehabilitation Engineering Research Center on Technology for Children with Orthopedic Disabilities focuses on research and development assisting children to achieve their full potential as productive citizens. The work plan includes a roster of projects designed to enhance the physical skills of these children to be successful in learning, playing, and living independently. This project includes three research and three development projects, as well as training projects serving the needs of children, families, students, and professionals. Project selection is driven by the RERC on Children with Orthopedic Disabilities’ vision of RERCs as a source of innovation and of new technologies designed to address the serious problems faced by children with disabilities. This project is a collaboration of New Jersey Institute of Technology, the Childrens’ Specialized Hospital, and Rutgers University, bringing together two academic departments of biomedical engineering with the nation’s largest pediatric rehabilitation hospital.
Rehabilitation Engineering Research Centers (RERCs)  
New York

Rehabilitation Engineering Research Center on Technology Transfer  
(T2RERC)

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Project Number: H133E030025  
Start Date: October 01, 2003  
Length: 60 months  
NIDRR Officer: Thomas Corfman  
NIDRR Funding: FY 03 $949,999; FY 04 $950,000; FY 05 $950,000; FY 06 $950,000

Abstract: The activities of this project transfer and commercialize new and improved assistive devices,  
conduct research to improve technology transfer practice, and support other stakeholders involved in the  
technology transfer process. Four research projects investigate innovative ways to facilitate and improve the  
process of technology transfer for all stakeholders: (1) Identify Innovative Technology Transfer Practices -  
draws critical success factors from examples of retrospective and prospective AT transfer case studies in  
various sectors; (2) Identify Innovative Technology Transfer Policies - traces the outputs and outcomes of  
Federal transfer programs supporting AT related projects and assesses their efficacy; (3) Facilitate AT  
Industry Innovation through Focused Market Research - provides a context for transfer opportunities  
involving the AT industry and for public policy decision making; and (4) Assess the Efficacy of Transferred  
Products - determines the extent to which products previously transferred through the T2RERC impact the  
functional capabilities of consumers. Four development projects increase the number and quality of successful transfers from RERCs and other sources: (1) Transfer Products through a Supply Push Approach - facilitates the movement of new or improved prototype inventions to the marketplace through licenses, sales, or entrepreneurial ventures; (2) Transfer Technologies through a Demand Pull Approach - validates technology needs within the AT industry and introduces advanced technology solutions to address those needs; (3) Improve the Accessibility of New Mainstream Products - extends participatory research to integrate consumers’ functional requirements into the design of new mainstream products; and (4) Facilitate RERC Transfer Activity Through Informatics - establishes a pilot informatics infrastructure and assesses its utility for increasing communication, collaboration, and transfers between RERCs.
Rehabilitation Engineering Research Centers (RERCs)
New York

Rehabilitation Engineering and Research Center (RERC) on Universal Design and the Built Environment at Buffalo

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Project Number: H133E050004
Start Date: November 01, 2005
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 05 $949,996; FY 06 $949,994

Abstract: The RERC on Universal Design and the Built Environment is engaging the public and private sectors across four broad domains of the built environment: (1) community infrastructure, (2) public buildings, (3) housing, and (4) products. The RERC-UD generates strategically important research, development, education, and dissemination deliverables, to advance the fields of rehabilitation engineering and environmental design. The RERC-UD deliverables integrate universal design principles within the generally accepted models, methods, and metrics of design and engineering professionals in the building and manufacturing industries. Research projects document the efficacy of existing universally designed environments, and generate critical human factors data essential to resolving design and engineering problems. Development projects create evidence-based guidelines to implement universal design concepts within the tools of the design professions, and formulate methods to evaluate the usability of designs for people with mobility, sensory, and cognitive impairments. The usefulness of the guidelines and evaluation methods are demonstrated by applying them to the development of innovative products and environments with industry partners. Training activities emphasize online certificate programs in universal design for design professionals, builders, manufacturers, and consumer advocates; a web portal and site for students and educators; and graduate programs that train researchers in advanced methods. Dissemination outputs include traditional refereed and trade publications, an extensive website with downloadable information products and design tools, model home demonstrations in local communities across the country, and outreach activities with professional, business, and standards development organizations. The RERC-UD’s state-of-the-science conference includes stakeholders in a plan to elevate universal design to an integral component of the mainstream design and engineering disciplines.
Rehabilitation Engineering Research Center on Communication Enhancement

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Project Number: H133E030018
Start Date: November 01, 2003
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 03 $949,977; FY 04 $949,973; FY 05 $949,974; FY 06 $949,976

Abstract: The mission of this RERC is to assist people who use augmentative and alternative (AAC) technologies in achieving their goals across environments. The goals and objectives of the RERC are to advance and promote AAC technologies through the outputs and outcomes of research and development activities and to support individuals who use, manufacture, and recommend these technologies in ways they value. Research projects cover the following areas: (1) improving AAC technology to better support societal roles; (2) enhancing AAC access by reducing cognitive/linguistic load; and (3) enhancing AAC usability and performance. Projects address issues of literacy, telework, specialized vocabulary, contextual scenes and intelligent agents, improving interface performance, and monitoring and simulating communication performance. Development activities include: (1) technology and policy watch; (2) new interfaces; and (3) reducing the cognitive/linguistic burden on AAC users. Activities address monitoring emerging technologies, standards, and policies; technologies to supplement intelligibility of residual speech, dysarthric speech, and gesture recognition; brain interface; AAC WebCrawling; and enhancing the role of listeners in AAC interactions.
Rehabilitation Engineering Research Centers (RERCs)
Oregon

National Center for Accessible Public Transportation

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Project Number: H133E030009
Start Date: October 01, 2003
Length: 60 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 03 $949,479; FY 04 $949,259; FY 05 $949,044; FY 06 $949,260

Abstract: This RERC addresses the need for improvements in the accessibility of public transportation. This center is both important and timely because of major changes in the travel industry, and the need to adapt to those changes in a way that provides safe and dignified travel for persons with disabilities. The transportation focus of this RERC is inter-city travel via air, rail, and bus. Air, rail, and over-the-road buses (OTRB) account for nearly all of the inter-city public transportation. Accessibility issues focus on persons with mobility, agility, and hearing disabilities and account for a large percentage of persons with disabilities. Two areas of research are addressed: (1) the biomechanics of wheelchair transfers in confined spaces; and (2) the perceptions, reactions, and attitudes of subjects towards existing and proposed accessibility solutions. The biomechanics studies include the use of a sophisticated eight-camera motion analysis system in conjunction with force plates to determine the motions and forces involved in dependent and independent transfers in confined spaces, such as an aircraft aisle. The survey-based study includes comprehensive surveys of groups that are directly involved with accessibility issues including travelers with disabilities, non-travelers with disabilities, and employees of airlines and airports. Drawing on results of their research, the RERC focuses on four development topics: (1) vehicle boarding technologies; (2) real time passenger information and communications systems; (3) accessible lavatories; and (4) passenger assistance training tools and techniques. The accessible lavatory project has two main components; regulations and new designs for the next generation of aircraft.
Rehabilitation Engineering Research Centers (RERCs)
Pennsylvania

Rehabilitation Engineering Research Center on Wheelchair Transportation Safety

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Project Number: H133E010302
Start Date: November 01, 2001
Length: 60 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 01 $868,840; FY 02 $899,057; FY 03 $897,745; FY 04 $899,264; FY 05 $898,054; FY 06 $0 (No-cost extension through 10/31/2007)

Abstract: This RERC aims to improve the safety of wheelchair users who remain seated in their wheelchair while using public and private motor-vehicle transportation. RERC tasks investigate and develop new wheelchair tiedown and occupant restraint system technologies, including wheelchair-integrated restraints and universal docking concepts, that enable wheelchair users to secure and release their wheelchair independently and quickly, and use an effective occupant restraint system without the need for assistance. The RERC also researches the issues and factors involved in providing improved occupant protection to wheelchair-seated drivers and passengers in rear and side impacts, and uses a multifaceted approach, including in-depth investigations of real-world accidents, to investigate the incidence, severity, and causes of injuries to wheelchair-seated occupants in different sizes of vehicles and in different types of crashes and non-impact incidents experienced during vehicle motion. In particular, this RERC explores the need for, and suitability of, using different levels of wheelchair securement and occupant restraint in larger public transit vehicles, with the goal of recommending and developing equipment and systems that provide for a safe ride and that are more compatible with the operational needs of the transit environment. The program includes a comprehensive research and development effort that involves consumers, manufacturers, students, clinicians, transport providers, and rehabilitation technology experts. The RERC also has active programs of information dissemination, training, and technology transfer using personnel, mechanisms, and facilities that have been previously established at the University of Pittsburgh/University of Michigan.
Rehabilitation Engineering Research Centers (RERCs)
Pennsylvania

Rehabilitation Engineering Research Center on Telerehabilitation

University of Pittsburgh
School of Health and Rehabilitation Sciences
Rehabilitation Science and Technology
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Project Number: H133E040012
Start Date: December 01, 2004
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 04 $849,890; FY 05 $849,930; FY 06 $849,922

Abstract: The vision of this RERC is to serve people with disabilities by researching and developing methods, systems, and technologies that support remote delivery of rehabilitation and home health care services for individuals who have limited local access to comprehensive medical rehabilitation outpatient and community-based services. Research and development activities include: (1) Telerehabilitation Infrastructure and Architecture: development of an informatics infrastructure and architecture that builds on existing programs and technologies of the University of Pittsburgh Medical Center’s e-Health System, supports the RERC’s research and development activities, meets HIPAA requirements, provides a test-bed for third party telerehabilitation applications, and can be used as a model for future telerehabilitation infrastructure; (2) Telerehabilitation Clinical Assessment Modeling: development of a conceptual model for matching consumers with telerehabilitation technology. The model is user-oriented and driven by consumer experiences regarding satisfaction, simplicity, and reimbursability of telerehabilitation; (3) Teleassessment for the Promotion of Communication Function in Children with Disabilities: development of a web-based teleassessment infrastructure that links therapists and child participants, allowing therapeutic content to be adapted to the child’s individual progress and abilities; (4) Remote Wheeled Mobility Assessment: determines if individuals with mobility impairments can obtain appropriate prescriptions for wheeled mobility devices through the use of a telerehabilitation system based upon information and telecommunications technologies; (5) Behavioral Monitoring and Job Coaching in Vocational Rehabilitation: researches technologies to conduct remote delivery of rehabilitation services to individuals who have limited access to rehabilitation services that are necessary to participate in and achieve education and employment outcomes in their community; and (6) Remote Accessibility Assessment of the Built Environment: determines the effectiveness of a remote accessibility assessment system in evaluating the built environment of wheeled mobility device users.
Rehabilitation Engineering Research Centers (RERCs)
Wisconsin

Rehabilitation Engineering Research Center on Universal Interface and Information Technology Access

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Project Number: H133E030012
Start Date: October 01, 2003
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 03 $1,000,000; FY 04 $1,000,000; FY 05 $1,000,000; FY 06 $1,000,000
Abstract: The focus of this RERC is on both access to information (e.g., content) in its various forms, as well as access to interfaces used within content and by electronic technologies in general. The research and development program is carefully designed to provide an interwoven set of projects that together advance accessibility and usability in a fashion that takes into account, and supports, the full range of access strategies used by manufacturers and people with disabilities. These strategies range from enhancing the design of mainstream products that can be used by individuals with different ability sets to enhancing the ability of users to deal with the information and interfaces as they encounter them. Key to these projects are the development of new models and approaches for characterization of the functional requirements of current and future interfaces, and a better understanding of the type, diversity, and similarity of functional limitations across etiologies and disabilities. Research activities include: model generation and initial pilot studies for the characterization of interface requirements (current and emerging) and cross-disability user abilities; abstract user interfaces and human interface sockets; emerging technologies and future research needs; and accessible real-time visual information presentation in meetings and virtual meetings. Development projects include: tools to facilitate the incorporation of cross-disability interface features in public information technologies; tools to facilitate AT-IT interoperability; server-based and “virtual assistive technology; “ and support for national and international standards and guidelines efforts.
Rehabilitation Engineering Research Center on Telecommunication Access

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Project Number: H133E040013
Start Date: October 01, 2004
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 04 $850,000; FY 05 $924,988; FY 06 $850,000
Abstract: The focus of this RERC is on advancing accessibility and usability in existing and emerging telecommunications products for people with all types of disabilities. Telecommunications accessibility is addressed along all three of its major dimensions: user interface, transmission (including digitization, compression, etc.), and modality translation services (relay services, gateways, etc.). Research and development projects cover three areas: (1) development of tools, techniques, and performance-based measures that can be used to evaluate current and evolving telecommunication strategies including visual communication and cognitive access; (2) solving the problems faced by individuals using hearing aids or cochlear implants with digital phones (including development of tools that users can employ to match appropriate hearing technologies with telecommunication technologies); and (3) improving access to emerging telecommunications for people with visual, hearing, physical, and cognitive disabilities – particularly digital and IP-based systems including emergency communication. The RERC looks at advances that have both short- and long-term outcomes related to assistive technologies (AT), interoperability, and universal design of telecommunications. In addition, the RERC provides technical assistance to government, industry, and consumers, training for industry, and education for new researchers in this field. The RERC is a collaboration of the Trace Center at the University of Wisconsin and the Technology Access Program at Gallaudet University.
Rehabilitation Engineering Research Centers (RERCs)
Wisconsin

Rehabilitation Engineering Research Center on Accessible Medical Instrumentation

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Project Number: H133E020729
Start Date: November 01, 2002
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 02 $901,131; FY 03 $899,614; FY 04 $899,155; FY 05 $899,870; FY 06 $899,572

Abstract: The RERC on Accessible Medical Instrumentation: (1) increases knowledge of, access to, and utilization of healthcare instrumentation and services by individuals with disabilities; (2) increases awareness of and access to employment in the healthcare professions by individuals with disabilities; and (3) serves as a national center of excellence for this priority topic area. Specific research projects include: (1) needs analysis for people with disabilities as both recipients and providers of healthcare services, and for manufacturers of healthcare instrumentation; (2) usability analyses to determine what makes certain medical instrumentation either exemplary or problematic yet essential to healthcare service delivery; (3) accessibility and universal usability analysis to identify classification and measurement approaches that could be used to explore metrics for accessibility of medical instrumentation; and (4) policy analyses to explore how medical policies affect healthcare utilization and employment in the healthcare professions of persons with disabilities. Specific development projects include: (1) development of tools for usability and accessibility analysis; (2) development of modified and new accessible medical instrumentation; (3) monitoring of, and involvement in development of, emerging, accessible healthcare technologies; and (4) development of design guidelines for accessible medical instrumentation and model policies for healthcare service delivery.
Wayfinding Technologies for People with Visual Impairments: Research and Development of an Integrated Platform

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Project Number: H133A011903
Start Date: December 01, 2001
Length: 60 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 01 $449,065; FY 02 $449,895; FY 03 $449,444; FY 04 $445,486; FY 05 $447,929; FY 06 $0 (No-cost extension through 10/31/2007)

Abstract: This project develops a hardware and software platform that provides accessible location and navigation information for people who are blind or who have visual impairments who are traveling in indoor and outdoor environments. Development activities focus on creating an effective user interface and developing a common hardware and software platform that exploits the Global Positioning System (GPS) and other current and emerging navigation technologies. Specific activities include integrating navigation aids that have been developed by Sendero LLC (GPS Talk) and by the University of California-Santa Barbara/CMU group headed by Jack Loomis (the Personal Guidance System, or PGS). The platform also accesses information from other devices, including Talking-Signs™ type devices, intersection signalization controls, an indoor digital sign system to be developed during this project at the University of Minnesota, a spatialized tactile stimulator to be developed at UCSB, a dead reckoning pedestrian navigation system, and cellular phones with GPS capabilities. For navigating in outdoor environments, a system could aid pedestrians who are blind at complex intersections and roundabouts, and devices could assess and prevent veer.
Community Research for Assistive Technology

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**Principal Investigator:** Patricia Yeager

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**Project Number:** H133A010702

**Start Date:** October 01, 2001

**Length:** 60 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 01 $299,910; FY 02 $299,893; FY 03 $229,150; FY 04 $229,534; FY 05 $299,050; FY 06 $0 (No-cost extension through 9/30/2007)

**Abstract:** This project increases the capacity of the independent living community to work with its members and stakeholders to collect research data on access and use of AT to improve the lives of people with disabilities. Using a participatory research approach, the California Foundation for Independent Living Centers (CFILC) is using an ecological model to develop cumulative research data on the use of and access to AT by people with disabilities. University researchers train participants in research methods and assist with data collection and analysis. Community advocates conduct focus groups, surveys, and action research in their respective regions. Advocates also train university students in community-based research related to AT and independent living.
Disability and Rehabilitation Research Projects
California

Fundamental Issues in Wayfinding Technologies

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Project Number: H133A060056
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 06 $449,872

Abstract: This project conducts a broad spectrum of research to strengthen the foundations of wayfinding technology for assisting blind and visually impaired individuals to travel safely and independently. Rather than developing additional devices, this project addresses fundamental questions in wayfinding technology research: What information do blind and visually impaired travelers really want and need for safe independent travel? Why is there such an extreme range in navigational facility within the visually impaired population? What are the upper limits of the information that can be gained from traditional orientation and mobility training and environmental cues? How are the subtle auditory cues affected in subpopulations with different types of hearing loss? How should wayfinding performance, and barriers to it, be quantified so that future progress can be measured? What is the role of advance travel planning? By pursuing answers to these fundamental questions rather than adding more technology-driven devices to the existing selection, this research improves understanding about the efficacy and optimal applications of navigation and travel technologies and techniques. This provides a research-based foundation to inform and improve: (1) orientation and mobility instructional strategies; (2) the design of new wayfinding technologies; and (3) future research.
Disability and Rehabilitation Research Projects
Iowa

Technology for Independence: A Community-Based Resource Center
(TI:CBRC)

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Project Number: H133A021801
Start Date: November 01, 2002
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 02 $299,965; FY 03 $299,945; FY 04 $299,951; FY 05 $299,985; FY 06 $299,993

Abstract: The CBRC builds and enhances the capacity of community-based and consumer-directed disability organizations to design, implement, and disseminate research activities and projects that promote environmental access and use of technology for independence. The CBRC uses a combination of implementation strategies such as leadership development, training, and technical assistance activities, web-assisted audioconference training, distance education, and three annual onsite symposia in Iowa City, Houston, and Washington, DC. CBRC activities are directed to selected research teams, research centers, community-based disability organizations, and University research centers. Using multi- and inter-disciplinary models, the CBRC builds and enhances the capacity of these and other entities to conduct research that is both scientifically rigorous and relevant to real-world social, policy, and legal interests. The research team framework pairs researchers from community-based organizations with researchers from university-based research centers to improve existing and future collaborative relationships. The research pairs comprise individuals with diverse backgrounds, in terms of their disability type and severity, ethnicity, and socioeconomic experiences. The participants form close working relationships designed to advance knowledge in the areas related to technology for independence and environmental access. The project merges the national experience and expertise of ILRU regarding independent living and principles of choice and self-determination, with the nationally recognized research expertise of LHPDC in the areas of technology access and use, employment policy, and civil rights.
Disability and Rehabilitation Research Projects
Kansas

Mental Retardation and Technology Disability and Rehabilitation Research Project

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Project Number: H133A010602
Start Date: October 01, 2001
Length: 60 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 01 $299,871; FY 02 $299,778; FY 03 $299,715; FY 04 $299,871; FY 05 $299,602; FY 06 $0 (No-cost extension through 9/30/2007)
Abstract: This project supports the ability of people with intellectual disabilities (mental retardation) and other cognitive disabilities to use electronic and information technology as well as assistive technology and technologies that involve universal design. It examines current technology design features, gaps that exist in utilization of technologies, what state-of-the-art technology exists or is emerging that would provide benefits, and what modifications to existing or new technology would enhance this population’s inclusion in the community and integration into the workplace. The project includes two national consensus conferences, in conjunction with national conferences held annually or by American Association on Mental Retardation (AAMR) and The Arc of the United States, to address issues of technology use. Additional activities include reviewing and synthesizing the extant literature, canvassing existing disability-related technology advocates and associations, and product development and refinement. The project has also established a Special Interest Group on Technology and Mental Retardation through the AAMR, which allows stakeholders in the field the opportunity to participate in all project activities. A national expert advisory panel consisting of representatives from national disability organizations, manufacturers, people with mental retardation, experts in the field, and parent/family representatives are involved in all consensus-building activities and advise the project through its duration. The project is a collaboration of the Beach Center on Disability at the University of Kansas, The Arc, the AAMR, AbleLink Technologies, the Coleman Institute on Cognitive Disabilities, the Self-Advocate Coalition of Kansas, and the Joseph P. Kennedy Jr. Foundation.
Advancing Assistive Technology Outcomes

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Principal Investigator: Frank DeRuyter, PhD
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Project Number: H133A010401
Start Date: November 01, 2001
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 01 $449,787; FY 02 $449,932; FY 03 $449,967; FY 04 $449,994; FY 05 $449,986; FY 06 $0 (No-cost extension through 10/31/2007)

Abstract: This program advances the field of AT outcomes measurement. Research activities include: (1) performing a critical analysis of existing approaches to measurement and further developing instruments that are promising; (2) identifying unmet needs and assessing barriers to AT outcomes measurement; and (3) undertaking a prospective longitudinal study of factors associated with assistive device adoption, use, and discontinuance. Development activities include: (1) developing and evaluating independent electronic data collection or computer-assisted systems for the capture, analysis, and interpretation of AT outcomes information; (2) developing and evaluating improved methods and systems for communication of outcomes information among significant stakeholders; (3) automatic log file performance data-capturing for AT outcomes assessment; and (4) development of new or improved AT outcomes tools.
Disability and Rehabilitation Research Projects
North Carolina

Consortium for Assistive Technology Outcomes Research (CATOR) II

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Project Number: H133A060062
Start Date: January 01, 2007
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $449,994; FY 07 $449,995

Abstract: The Consortium for Assistive Technology Outcomes Research (CATOR-II), in collaboration with the RRTC on Measuring Rehabilitation Outcomes and Effectiveness and several other NIDRR-funded programs, enhances understanding of the impact of AT on the lives of people with disabilities by conducting a research project that systematically applies state-of-the-science measures of AT interventions, outcomes, and data collections mechanisms. The purpose of this project is to improve the AT field’s ability to measure the impact of AT on the lives of people with mobility disabilities, with the potential to supplement or supplant the instruments and techniques available to researchers, service providers, and policy makers. Project R-1 produces a state-of-the-science instrument for measuring outcomes for mobility AT devices based on applications of item response theory and computer adaptive testing (CAT). Project R-2 produces a state-of-the-science instrument for specifying and measuring key aspects of mobility AT treatment interventions, along with two consensually endorsed classifications of mobility devices and services. Together, these products provide a foundation to improve reporting of interventions in research publications and assess treatment fidelity in AT outcome studies. Drawing on the advanced measures emanating from projects R-1 and R-2, Project R-3 uses an experimentally controlled design to examine the conditions under which a change in assistance strategy, induced by a mobility AT intervention, enhances the functional performance, well-being, and device satisfaction of stroke survivors and decreases the assistance being received from cohabitating caregivers.
Think and Link: Email for Individuals with Cognitive Disabilities

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Project Number: H133A010610
Start Date: October 01, 2001
Length: 60 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 01 $300,000; FY 02 $300,000; FY 03 $300,000; FY 04 $300,000; FY 05 $300,000; FY 06 $0 (No-cost extension through 3/31/2007)

Abstract: This project improves the access and use of electronic mail by individuals with cognitive disabilities resulting from brain injury. The Internet’s email component has created an unparalleled communication network linking people for commercial and social purposes. It holds tremendous potential for lessening social isolation, one of the most pervasive and devastating consequences of brain injury. However, virtually nothing is known about what modifications are required to provide successful access to this technology to people with cognitive disabilities that result from brain injury. In addition, the diverse cognitive impairments confronting people with brain injury render an enormous challenge to the development of assistive devices that could improve accessibility to email. Activities of this project include: (1) identifying the wide range of issues critical for long-term, effective use of email by people with cognitive disabilities; (2) developing a diagnostic protocol, a cyber-evaluation of the potential of a person with cognitive disabilities to use electronic communication; (3) developing a software toolkit that allows caregivers, support persons, and professionals to fit an individual user with a customized email system; (4) creating a virtual clinic that supports widespread dissemination and use of these materials by cognitive rehabilitation professionals. An open-source software site on the web allows other worldwide researchers to use the new tools and contribute tools of their own.
Information Technology for Independence: Community-Based Research

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Project Number: H133A021916
Start Date: January 01, 2003
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 02 $299,945; FY 03 $299,534; FY 04 $299,945; FY 05 $299,384; FY 06 $298,903

Abstract: This project explores methods and technologies to mitigate barriers to computer and Internet use encountered by people with visual impairments. These barriers include limited computer ownership and Internet availability, difficulty in obtaining and using accommodations for functional limitations (including cost issues), psychological barriers arising from inadequate coaching or mentoring, and the limited accessibility of most websites to individuals with visual impairments. Accessibility can be promoted through computer ownership, Internet availability, assistive technologies, and knowledgeably-staffed public computer stations, such as at independent living centers. Evaluation of these barriers and of identified accommodation strategies is the first research task of this project. Preceded by focus groups and a widely-disseminated survey, the match of correct assistive device(s) to the individual and appropriate coaching and mentoring will be tested at community-based computer laboratories. The second research task is to develop and evaluate a new approach to Internet accessibility — a Gateway server. This Gateway transforms the contents of any website, whatever its level of accessibility, into the most accessible format for each Internet user, as Google does for personal digital assistant (PDA) users. The Gateway promotes Internet accessibility without requiring that commercial websites follow promulgated guidelines or standards for users with disabilities, something that web developers often seem to resist. Additionally, this project develops innovative metrics that enable the most rigorous approach to the analysis of Internet accessibility and is conducting large-scale studies of different topical categories of websites to measure progress in accessibility over time and identify the impact(s) of new technologies.
ACCESS: Assisted Cognition in Community, Employment, and Support Settings

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Project Number: H133A031739
Start Date: October 01, 2003
Length: 60 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 03 $297,127; FY 04 $299,171; FY 05 $298,764; FY 06 $299,949

Abstract: Project ACCESS investigates the use of assisted cognition as a tool for caregivers in supporting individuals with disabilities in living, working, and fully participating in community activities. The use of assisted cognition devices has the potential to increase an individual’s independence and decrease their reliance on the family/friend/caregiver network and community support staff. Devices in development include the activity compass and the ADL Prompter. The activity compass meshes several technologies (Palm Pilot, GPS receiver, and wireless modem). Over time, the device learns a user’s typical daily routines, monitors for variations, and then decides whether a prompt is necessary when a routine is unexpectedly changed. The ADL prompter monitors data collected by sensors embedded in a living or work environment. Using artificial intelligence software, the data from these sensors are interpreted and decisions made based upon the needs of the user. Although initially designed for people with Alzheimer’s, these devices have applications as support tools for caregivers and people with disabilities since they potentially support “distributed caregiving” wherein the caregiver or family member monitors, prompts, and/or supports from a distance.
Disability and Rehabilitation Research Projects
Wisconsin

**ATOMS Project: Assistive Technology Outcomes Measurement System**

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Project Number: H133A010403
Start Date: October 01, 2001
Length: 60 months
NIDRR Officer: Shelley Reeves

**NIDRR Funding:** FY 01 $450,000; FY 02 $450,000; FY 03 $450,000; FY 04 $450,000; FY 05 $450,000; FY 06 $0 (No-cost extension through 12/31/2006).

**Abstract:** The ATOMS Project (Assistive Technology Outcomes Measurement System) targets the definition and pre-development phases of a next-generation AT outcomes measurement system. A comprehensive needs assessment, prototype instrument development, and consensus building activities frame an integrated set of research and development activities to address urgent needs to identify components of a future AT outcomes measurement system. In addition, these activities generate information about the relationships of AT outcomes factors that produce a better understanding of AT use and abandonment.
Field Initiated Projects (FIPs)
California

Interference in Hearing Aids from Digital Wireless Telephones: Improved Predictive Methods

Advanced Hearing Concepts
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Project Number: H133G050228
Start Date: November 01, 2005
Length: 36 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 05 $149,200; FY 06 $149,200

Abstract: This project conducts experiments to develop a basic understanding of electromagnetic (EM) interference and to develop ways of predicting its effects on speech perception and the usability of cellular telephones by hearing aid wearers. Audio input signal to the hearing aid, the EM signal being picked by the hearing aid, and the distorted speech signal in the ear canal are all monitored simultaneously with the subjective measurements and stored digitally in a computer for subsequent analysis. Based on these measurements, researchers predict how the EM interference affects the intelligibility of amplified speech. The results of this study benefit not only consumers in selecting a hearing aid and/or cellular telephone, they also provide industry with the basic theoretical underpinnings needed to allow for the development of improved wireless telephones (and other digital wireless devices) that produce substantially less interference in hearing aids, thereby increasing accessibility of modern digital communication systems for people with hearing loss.
Field Initiated Projects (FIPs)
California

Accessible Location Information Delivered via GPS cell phone for People with Visual Impairments

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Project Number: H133G060036
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 06 $149,435

Abstract: This project develops an accessible GPS cell phone, which provides critical information about businesses, addresses, distances, and routes, thereby greatly augmenting the personal mobility of a traveler who is blind visually impaired. Specific activities include integrating the existing accessible GPS innovations with “smart” cell phone technology. The marriage of GPS and cell phones exists in the general market but it is screen based with a graphical interface rendering it completely inaccessible for blind and visually impaired individuals. Developing an interface to meet the needs of the nation’s blind and visually impaired travelers, i.e. translating the visual information into spoken text, is a central focus of this project. A consortium of three organizations with investigators from research centers and industry collaborate on this project. The consortium systematically evaluates project activities. Dissemination via various avenues includes conferences, webcasts/online discussions, end user lists, various media outlets, and presentations. The end result of this project is to provide a commercially available talking GPS cell phone.
Field Initiated Projects (FIPs)
California

Sound Localization with Multichannel Compression Hearing Aids

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Project Number: H133G030118
Start Date: September 01, 2003
Length: 36 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 03 $150,000; FY 04 $150,000; FY 05 $150,000; FY 06 $0 (No-cost extension through 8/31/2007)

Abstract: The primary objective of this research is to evaluate and compare wide dynamic range multichannel compression (WDRMCC) and linear hearing aids on localization and speech perception. To date there have been no studies of auditory localization using WDRMCC. The research uses innovative strategies and an extension of previous work, by taking WDRMCC outside of the laboratory to evaluate it in the complexities of the normal auditory environment and looking at effects of hearing aid experience on the ability to localize sounds. In addition to examining the general efficacy of a new wearable WDRMCC hearing aid in localization tasks, the research objectives include detailed study of the specific changes that occur in sound localization with WDRMCC and linear amplification as a function of time and the differences between the two platforms. The localization testing is complete and the data is being analyzed for a publication.
Field Initiated Projects (FIPs)
California

“Cross Watch”: Development of an Intersection Information System for Blind Travelers Based on Computer Vision

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Project Number: H133G030080
Start Date: September 15, 2003
Length: 36 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 03 $150,000; FY 04 $150,000; FY 05 $150,000; FY 06 $0 (No-cost extension through 9/14/2007)

Abstract: The goal of this project is to develop and evaluate a system, based on computer vision technology, to give a blind traveler more information about intersections than is obtainable through conventional orientation and mobility techniques. Urban intersections (the most dangerous parts of a blind person’s travel, and the places where most accidents happen) are becoming increasingly complex, making safe crossing ever more difficult. The project develops a system named “Cross Watch” to help the blind person find the crosswalk, learn about the shape and nature of the intersection, find the pedestrian signal button, determine when the “walk” light is on, and alert him/her to any veering out of the crosswalk while crossing. The primary input to the system is images from a small camera carried like a pendant around the user’s neck, analyzed by software to extract the desired information. The specific goals are to: (1) gather a database of real images taken by blind persons at a variety of different kinds of intersections; (2) develop algorithms to process the images and extract the desired information; (3) incorporate the camera and algorithms in a portable prototype; and (4) conduct user testing to establish design parameters and human interface optimization. The software is designed to be capable of integration as a module for the “SignFinder” system already in development for finding printed signs in the camera images and reading them aloud to the user. The combined system provides a quantum leap forward in independent travel for blind persons.
Field Initiated Projects (FIPs)
California

Efficacy of a Custom-fitting Cognitive Orthotic with Automatic Planning and Cueing Assistance

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Project Number: H133G040145
Start Date: December 01, 2004
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 04 $149,994; FY 05 $149,963; FY 06 $149,967
Abstract: Executive control dysfunction can be the biggest challenge on the recovery path toward social and vocational independence for individuals with cognitive impairment. This project demonstrates the effectiveness of a cognitive aid, the Planning and Execution Assistant and Trainer (PEAT). PEAT not only provides the cueing and organization functions that many current cognitive orthoses contain, but it possesses the algorithms to monitor the progress of task execution. PEAT automatically generates schedules, detects and corrects schedule errors, cues the user to start and stop tasks, monitors performance, and adjusts to changes as they arise. As such, PEAT is a cognitive orthotic that has great potential for improving outcomes across multiple functional domains for people with cognitive impairments. Individuals with executive dysfunction 2° to traumatic or acquired brain injury, as well as other disease processes, receive either the PEAT device or standard cognitive aids/strategies. Each subject undergoes three assessments: baseline (before study initiation), 3, and 6 months after study enrollment.
Field Initiated Projects (FIPs)
Colorado

Development of an Assistive Technology Outcomes Measurement System Utilizing the International Classification of Functioning (ICIDH-2/ICF)

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Project Number: H133G030187
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 03 $149,939; FY 04 $149,933; FY 05 $149,996; FY 06 $0 (No-cost extension through 9/30/2007)

Abstract: This project furthers the development of a secure, Health Insurance Privacy and Accountability Act of 1996 (HIPAA) compliant, multi-site, web-based assistive technology (AT) outcomes system designed to capture data that enables the measurement of the impact of AT devices and services for children and adults with disabilities. The project results in the design and development of a working prototype complete with instructional support for users. The project is designed for easy addition of data fields to support the ever-evolving schema for outcomes assessment in AT. The use of the International Classification of Functioning, Disability and Health (ICIDH-2/ICF) as the framework for development builds on initial pilot work already completed by faculty of Assistive Technology Partners, University of Colorado Health Sciences Center, and collaboration with two NIDRR funded national projects focused on AT outcomes development (ATOMS/CATOR). Information gained leads to maximizing 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 severe disabilities; and will lead to improved information and research on the effectiveness of AT devices and evidence-based practices.
Field Initiated Projects (FIPs)
Delaware

Enhancing AAC Communication through Improved Access to Fringe Vocabulary Words

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Project Number: H133G040051
Start Date: November 01, 2004
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 04 $149,993; FY 05 $149,996; FY 06 $149,986

Abstract: This project examines “fringe vocabulary” access, the means by which an Augmentative and Alternative Communication (AAC) device user accesses the substantially larger set of words needed in communication. AAC devices typically employ some mechanisms to enhance access to the most frequently used words or “core vocabulary.” However, much communication also involves accessing words that are not in this core. One method of accessing fringe vocabulary is word prediction, which can offer a choice of completed words based on the user’s selection of one or more initial word letters. This project seeks to optimize word prediction for fringe vocabulary. An important factor in this effort is the implementation of context-aware word prediction. Such a system automatically adapts its word predictions in response to changes in the user’s actions and environment. For example, different fringe vocabulary items may be predicted depending on the user’s geographic location, conversational topic, and identity of his/her conversational partner. Researchers study and implement word prediction methods based on observations of patterns of behavior exhibited by users in similar situations.
Field Initiated Projects (FIPs)
District of Columbia

Smart Over-Ground Body-Weight Support Gait Training System

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Project Number: H133G050259
Start Date: November 01, 2005
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 05 $149,817; FY 06 $148,721

Abstract: The goal of this project is to build and test a new body-weight support system that allows individuals of different body weight and varying levels of walking ability to safely practice over-ground gait training. In the acute stages of many neurological injuries such as stroke, spinal cord injury, or traumatic brain injury, individuals often exhibit highly unstable walking patterns and poor endurance, making it difficult to safely practice gait for both the patient and therapist. Because of this, rehabilitation centers move over-ground gait training to the treadmill where bodyweight support systems can help minimize falls while at the same time raising the intensity of the treadmill. Since a primary goal of all individuals with walking impairments is to walk in their homes and in the community rather than on a treadmill, it is imperative that therapeutic interventions targeting walking involve over-ground gait training. This device allows therapists to train patients early in their recovery stages in a safe, controlled manner, and thus enhance gains in over-ground walking ability.
Field Initiated Projects (FIPs)
District of Columbia

Accessible Digital Radio Broadcast Services

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Project Number: H133G060187
Start Date: October 01, 2006
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 06 $150,000

Abstract: In this project, National Public Radio (NPR) and the WGBH National Center for Accessible Media (NCAM) prototype, field test, and assess the most appropriate technologies, service models, and operational techniques in the accessible design of mass-market digital radio services to better serve consumers with sensory disabilities. This work produces best practice demonstrations and service options with strong prospects for mass-market adoption within digital radio services and receivers, options that model how digital radio can provide: mainstreamed digital reading radio services; live video description synchronized to broadcast; buffering for rewind/replay/catch-up to aid comprehensibility; accessible controls, displays, and menu options on digital radio receivers; and caption displays of audio on digital radio receivers or ancillary displays. Best practice demonstrations and service options benefit from iterative and comprehensive user evaluations led by research experts. Furthermore, NPR and NCAM have extensive collaborative relationships within the industry that ensure widespread impact on products and services available to people with sensory disabilities.
An Automatic Fitting Algorithm for Cochlear Implant

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Project Number: H133G060065
Start Date: October 01, 2006
Length: 36 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 06 $146,562

Abstract: The purpose of this study is to design and evaluate an automatic cochlear implant fitting algorithm based on a paired comparison adaptive approach to guide audiologists in choosing the best frequency allocation for the individual client. Frequency allocation can impact speech recognition abilities and in turn communication. This work entails a systematic search for an optimum frequency allocation using a modified Simplex procedure. This study consists of three experiments. One is the discrimination of frequency analysis band wherein minimally detectable differences in frequency shifts along the electrode array are identified. In the second experiment, subjects are computer-guided to search for an optimal frequency allocation among cells in a matrix, with the results from experiment one defining the cell content. The third experiment, the speech battery test, consists of speech perception experiments with the new map using nonsense syllable, phoneme, and sentence stimuli. Experiment 2 and experiment 3 are recursively conducted until the results converge with up to six sessions per subject required to finish the experiment. During the subject’s first and last visits, he/she completes the Communication Profile for the Hearing Impaired (CPHI) and a questionnaire similar to the Abbreviated Profile of Hearing Aid Benefit (APHAB). Four normal hearing native English speakers evaluate the experimental procedure and the speech processing algorithm. Fifteen post-linguistically deafened Nucleus 24 cochlear implant users complete the study.
Field Initiated Projects (FIPs)
Georgia

Analyzing Universal Design Resource Needs for Practitioners in Industry and Government

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Project Number: H133G040151
Start Date: November 01, 2004
Length: 36 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 04 $149,391; FY 05 $149,754; FY 06 $149,411
Abstract: This project draws from past human factors research which has examined the quality of design guidelines, the design process in general, and needs/task analyses to support design-tool creation. Lessons from the human factors field are considered in relation to studies of universal design practice in industry, and needs analysis to support universal design resource creation. The target population for this project is people who utilize universal design resources in industry and government. The objective of the research is to understand and document actions/behaviors of practitioners involved in design or procurement activities in relation to their use of universal design resources. A systems analysis approach has been employed in the design of research activities. The relevant elements of the system are examined through observation and measurement. Four sequential research activities are: (1) an analysis of universal design guidance in the context of practitioner use employing heuristic evaluation, survey, and interview methods; (2) a field-based analysis of supply-chain stakeholder activities, which conducts a needs and task analysis using various contextual inquiry methods; (3) controlled laboratory-based usability studies of resource use during universal design projects; and (4) a summative resources and training effects study, which examines how professionals who are new to universal design concepts approach design, and succeed or fail depending on the level of tuition and the level of resource access that they have during design activities.
Field Initiated Projects (FIPs)
Georgia

Inclusive Indoor Play

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Project Number: H133G040324
Start Date: December 01, 2004
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 04 $150,000; FY 05 $150,000; FY 06 $150,000

Abstract: The purpose of this project is to research indoor play environments, develop universal design play guidelines, and design models of play environments that are safe and accessible to all children. This project: (1) conducts basic research and develops universal design guidelines for indoor play; (2) designs, develops, and tests models of inclusive indoor play environments that promote the highest level of safety, usability, accessibility, and social interaction; and (3) constructs and tests a working prototype of an indoor play environment that demonstrates highest level of access for all children. It researches play and the play environment through literature review, existing products, existing play environments, focus group interviews with participants, expert consultations, children’s play designs, and testing of full-scale simulated play environments. The second year of this project focuses on development of design concepts, construction of refined design in full scale, and testing with users. The final year of this project is dedicated to prototype construction and testing.
Selective Dynamic Strength Training to Enhance Upper Limb Coordination Following Stroke

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Project Number: H133G030143
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 03 $149,998; FY 04 $149,991; FY 05 $149,992; FY 06 $0 (No-cost extension through 9/30/2007)

Abstract: This study investigates the use of a novel selective dynamic strengthening protocol, which incorporates a two-joint robotic device to overcome gravity induced abnormal movement synergies following hemiparetic stroke. The specific objectives are the evaluation and demonstration of the usefulness and effectiveness of this selective dynamic robot-supported training regime for enhancement of quality of life of stroke survivors. The effects of the dynamic training regime on functional arm movements are being investigated in 2 groups of 20 subjects with chronic hemiparetic stroke. The control group follows an 8-week conventional upper extremity strengthening protocol consisting of shoulder abduction/flexion and elbow extension exercises. The conventional protocol represents an adapted exercise program available for people with chronic stroke (4.5 million) who no longer receive formal physical therapy due to a plateau in functional restoration. The experimental group follows a novel robot-supported training regime, which also strengthens subjects with chronic stroke but emphasizes performance of rapid reaching movements while increasing active support of their arm. This enables the subject to progressively deviate from their abnormal torque synergies. The evaluation and training paradigm provides quantitative outcome measures, which can be used to reliably track a patient’s progress using technology that is easy to implement with no risk of injury. The long-term goals of this study are the technological development and implementation of a simple, user-friendly, robot-supported therapeutic intervention accessible to consumers in both in- and out-patient clinics.
**Computer Treatment for Aphasia: Evaluating Efficacy and Treatment Intensity**

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**Project Number:** H133G040269  
**Start Date:** October 01, 2004  
**Length:** 36 months  
**NIDRR Officer:** Shelley Reeves  
**NIDRR Funding:** FY 04 $149,978; FY 05 $149,808; FY 06 $149,933

**Abstract:** This project implements an innovative computerized treatment program for individuals with chronic aphasia, evaluates its effectiveness, and assesses the impact of treatment intensity on outcome. The treatment, Oral Reading for Language in Aphasia (ORLA), uses state-of-the-art computer technology that allows the individual with aphasia to read aloud, and ultimately speak, sentences at the same time as the words are produced in visible speech by an animated agent. The treatment is based on a theoretical framework that incorporates two lines of work: the neuropsychological models of reading and observation-execution-matching. Individuals with chronic aphasia are randomized to one of three treatment groups: high intensity computer treatment (10 hours per week); low intensity computer treatment (4 hours per week); and a control condition in which subjects participate in non-language computer activities for 4 hours per week. For all groups, treatment continues for six weeks. Language and communication skills are evaluated pre-treatment, immediately post-treatment, and at 6 and 12 weeks after the end of treatment. The primary outcome measure is the Aphasia Quotient of the Western Aphasia Battery. Secondary outcome measures consider the ICFDH-2 categories of body structure/function, activity and participation and include a variety of standard aphasia tests as well as quality of life indices. Aphasia is a chronic condition that requires long-term treatment of the communication disorder to ensure that individuals can participate in a full range of vocational, recreational and social activities.
Visual Guidance to Improve Stepping Behavior Post-Stroke

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Project Number: H133G050132
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 05 $149,996; FY 06 $149,828

Abstract: Impaired walking ability is a major obstacle to quality of life for stroke survivors, and recovery of independent walking is among the most important goals for individuals post-stroke. Physical therapists use physical guidance of the limb during body-weight supported treadmill training to work toward these goals, but clinical experience suggests that these techniques have limited effectiveness because when the physical guidance is removed, the stepping behavior, although somewhat improved, reverts to a preferred stepping pattern. This project introduces a novel simulated object stepping paradigm to improve walking poststroke by providing the added benefits of visual guidance during body-weight supported treadmill training. Consumers view simulated objects through a pair of goggles and are instructed to step over challenging objects while subjected to body-weight supported treadmill training. The dimensions of the object are adjusted so that successful stepping is associated with an improved and more functional step length and toe clearance leading to improved gait speed and lowered risk for falls.
Web-Based Treatment for Aphasia

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Project Number: H133G060055
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $146,316

Abstract: This project conducts a randomized clinical trial to develop and implement an innovative, broadband, web-based treatment program for individuals with chronic aphasia, and evaluates its efficacy and cost-effectiveness. The treatment, Oral Reading for Language in Aphasia (ORLA), is based on a theoretical framework that incorporates two lines of work: the neuropsychological models of reading and observation-execution-matching. The treatment has been computerized and the current version of ORLA uses state-of-the-art virtual therapist technology that allows the individual with aphasia to read aloud, and ultimately speak, sentences at the same time as the words are produced by a perceptive, life-like, animated computer agent, using visible speech. In this clinical trial, ORLA treatment is delivered via the Internet and outcomes are compared to a placebo computer treatment. Twenty-five individuals with chronic aphasia (at least 12 months post onset) are randomized to one of two groups: oral reading treatment group and a control group in which subjects participate in non-language computer activities. Both groups practice for nine hours per week and treatment continues for a six-week period of time. Language and communication skills are evaluated pretreatment, immediately post-treatment, and at six weeks after the end of treatment to assess maintenance effects. The primary outcome measure is the Aphasia Quotient of the Western Aphasia Battery. Additionally, secondary outcome measures have been selected with consideration of the ICFDH-2 categories of body structure/function, activity, and participation and include a variety of standard aphasia tests as well as quality of life indices.
Optimized Hands-Free Speech Recognition

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Project Number: H133G050354
Start Date: December 01, 2005
Length: 36 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 05 $149,882; FY 06 $149,997

Abstract: The goal of this project is to take the collected hands-free speech recognition scientific knowledge and interface solutions, which have been individually developed and proven, and incorporate those into a commercially available user interface software product. The project follows an iterative user centered design process whose three main phases correspond roughly to the three years of the project. In phase 1, past research results are incorporated into a prototype design, which undergoes usability testing in the lab. In phase 2, an “alpha” version of the product is placed in a small number of users’ homes and/or offices, where they use the prototype for up to six months and keep a diary of their experiences. In phase 3, a “beta” version of the software is tested by a larger number of users over a period of six months. In this trial the users are subject to surveys regarding ease-of-use, and they and the developers participate in an open online discussion/feedback forum for users. The end of phase 3 includes a final refinement of the product and evaluations of the performance of the new software product, and (for marketing purposes) a comparison of performance of the hands-free implementations of speech recognition software commercially available at that time. This project culminates with “Version 1.0” which will be made available to the general public.
Access to Digital Cinema Systems

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Project Number: H133G030104
Start Date: September 01, 2003
Length: 36 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 03 $150,000; FY 04 $150,000; FY 05 $150,000; FY 06 $0 (No-cost extension through 6/21/2007)

Abstract: This project builds on WGBH National Center for Accessible Media (NCAM) experience and successes in developing and proliferating MoPix technologies to make digital cinema accessible to people with sensory disabilities. MoPix systems enable the 34 million Americans with hearing or vision loss to enjoy first-run films with their friends and families. As in all NCAM standards initiatives, open specifications are proposed that technology developers can use to enable myriad display options, including, but not limited to, MoPix systems. Project goals are to: (1) Work with standards organizations to ensure inclusion of captions and audio narration in industry specifications for packaging, identification, transport, retrieval and display of digital cinema content; (2) develop solutions and prototypes to support delivery and display of caption and description files, both in current first-generation and future d-cinema systems; and (3) promote review of project solutions and proposed standards through dissemination and high-profile demonstrations, and support implementation by digital cinema systems vendors.
Field Initiated Projects (FIPs)
Massachusetts

Speech Solutions for Next Generation Media Centers

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Project Number: H133G040143
Start Date: October 01, 2004
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 04 $150,000; FY 05 $150,000; FY 06 $150,000
Abstract: This project is developing a fully operational home media center with voice input and output capabilities enabled via keyboard and remote control, based on open source technologies. Project activities include: Creation of an accessible Linux-based home media center; publication of source code and specifications for open source media center; speech interface solutions enabled via keyboard and remote control; demonstration model of end user control and navigation of open source media platform via a PDA with Panasonic’s small footprint speech interface; publication of end-user interface research; and a final report that details the impact of project solutions and publications. A demonstration model of a small footprint speech interface for this open source media center that previews how emerging speech technologies could be used in new handheld products in development by industry is in development from Panasonic Digital Networking Laboratory. American Foundation for the Blind conducts comprehensive end-user evaluations that document how blind and low vision users interact with and utilize the speech interface offered by both project solutions.
Field Initiated Projects (FIPs)  
Massachusetts

Access to Locally Televised On-Screen Information: Auditory Messaging and Captions During Emergency Broadcasts

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Project Number: H133G050278  
Start Date: October 01, 2005  
Length: 36 months  
NIDRR Officer: Bonnie Gracer  
NIDRR Funding: FY 05 $150,000; FY 06 $150,000

Abstract: This project explores and prototypes digital television (DTV) solutions that enable local television stations to send messages, warnings, and alerts that meet the communication needs of people with sensory disabilities. Specifically, NCAM researches and develops systems and procedures that enable real-time processing and conversion of on-screen text crawls into speech output. Utilizing off-the-shelf speech synthesizers, WGBH works with broadcast stations to prototype methods of processing text entered into broadcast graphics systems into speech output that can then be made available via the secondary audio program (SAP) channel or auxiliary DTV audio channels. The project also develops systems and procedures that address display conflicts between captions and on-screen graphics by developing methods of tagging and prioritizing text and graphics messages within automated display systems.
Field Initiated Projects (FIPs)
Massachusetts

Making In-Flight Communications and Entertainment Accessible

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Project Number: H133G050254
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 05 $150,000; FY 06 $150,000

Abstract: This project researches barriers and develops solutions that can make inflight communication and entertainment systems (IFE) accessible to people with sensory disabilities. Major project activities are to:
1. Research technical solutions, procedures, and practices required to infuse access considerations into inflight hardware, digital content management systems, interactive and display systems, connectivity, and content;
2. Develop a demonstration model using a state-of-the-art IFE system that prototypes inflight system support of user-selectable captions, audio description, and talking menus;
3. Participate in World Airline Entertainment Association technical committees and working groups and promote the adoption/inclusion of standard accessibility metadata models into new and existing standards developed by those groups;
4. Publish a white paper outlining the functional requirements of an accessible IFE system;
5. Promote review of demonstration model and proposed specifications through dissemination and high-profile demonstrations within industry, government, and the disability community.
Minimal Classroom Requirements for Optimal Acoustic Access to Speech by Children with and Without Hearing Loss

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Project Number: H133G060116
Start Date: December 01, 2006
Length: 36 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 06 $68,869

Abstract: The purpose of this project is to measure the effects of classroom noise and reverberation on speech perception by children with varying degrees of hearing loss and of different ages. The effects of speech-to-noise ratio (0 dBA S/N, +10 dBA S/N, and +20 dBA S/N) and reverberation (RT = 0.25, 0.50 and 1.0s) on sentence-level speech perception are measured as functions of age (5-16 years) and degree of hearing loss (mild to profound). Normative data is also collected, as a function of age, on children with typical hearing. This project addresses several questions: (1) What limits on noise and reverberation are required for optimal speech perception by children with hearing loss? (2) Can the need for access to speech among children with different degrees of hearing loss be met with a single set of criteria for classroom acoustics? (3) To what extent do these criteria vary with age among children with typical hearing and those with hearing loss?
Field Initiated Projects (FIPs)
New Jersey

Development of an Intelligent Patient Lift and Transfer Device

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Project Number: H133G040183
Start Date: October 01, 2004
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 04 $150,000; FY 05 $150,000; FY 06 $150,000

Abstract: The objective of the project is to develop the Intelligent Patient Lift (IPL) and Transfer Device based upon an advanced state-of-the-art technology that addresses present shortcomings: complexity and safety, cost and availability, level of effort for caregivers, and the number of caregivers needed to complete a transfer. This innovative system incorporates a recently patented concept proven in other lifting applications and developed by project collaborator Yobotics Incorporated. Based on needs identified at KMRREC-KIR, researchers develop and demonstrate refinements of the Patient Lifting frame and sling. The goal is to introduce an intelligent interface that provides both natural and comfortable interactions between the patient/user and the caregiver. The novel features incorporated in the IPL introduce a more intuitive control of the system and improve the quality of user-caregiver interactions by reducing the level of effort and complexity. The new IPL device is demonstrated and evaluated in an active rehabilitation setting. This fundamental lifting technology can be extended to other applications (such as vehicle entry and homecare) to benefit the majority of those with mobility disabilities.
Field Initiated Projects (FIPs)
New York

Inclusive Indoor Play

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Project Number: H133G040259
Start Date: December 01, 2004
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 04 $150,000; FY 05 $150,000; FY 06 $150,000

Abstract: The purpose of this project is to research indoor play environments, develop universal design play guidelines, and design models of play environments that are safe and accessible to all children. This project: (1) conducts basic research and develops universal design guidelines for indoor play; (2) designs, develops, and tests models of inclusive indoor play environments that promote the highest level of safety, usability, accessibility, and social interaction; and (3) constructs and tests a working prototype of an indoor play environment that demonstrates highest level of access for all children. It researches play and the play environment through literature review, existing products, existing play environments, focus group interviews with participants, expert consultations, children’s play designs, and testing of full-scale simulated play environments. The second year of this project focuses on development of design concepts, construction of refined design in full scale, and testing with users. The final year of this project is dedicated to prototype construction and testing.
Field Initiated Projects (FIPs)
New York

Web-based Student Processes at Community Colleges: Tools for Ensuring Accessibility

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Principal Investigator: Susanne Bruyère, PhD
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Project Number: H133G040255
Start Date: October 01, 2004
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 04 $150,000; FY 05 $150,000; FY 06 $150,000
Abstract: Web-based processes (such as student recruitment, information dissemination, applications, course registrations, and online coursework) have become increasingly important to the way post-secondary educational institutions communicate and interact with their potential and enrolled student populations. This project targets Cornell’s information technology (IT) accessibility research and development efforts specifically to the national community college network. A multiple-prong approach is used to examine the state of web accessibility in the community college network and identify IT accessibility barriers for students with disabilities and ways to address them. The project includes a review of selected online application processes in 30 community colleges. The focus of the Year Two research is a telephone survey across all community colleges nationally regarding use of web-based/online student recruitment, application, and registration processes and the colleges’ awareness of web accessibility issues and policies regarding accessibility. The project is a collaborative effort between EDI and Cornell University’s Institute for Community College Development (ICCD).
The Universal eLearner — An Innovative Approach for Universal Online Learning

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www.talkingbookproductions.com/news.asp

Principal Investigator: Lou Gutierrez 212/502-7732
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Project Number: H133G050113
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 05 $149,518; FY 06 $149,809

Abstract: The purpose of this project is to develop a prototype of the Universal eLearner, an online educational media platform that addresses the specialized needs of all segments of the student/learner population, while representing a sound business model for educational publishers. The category of specialized learners encompasses students with learning disabilities, English language learners, students who are blind or have visual impairments, deaf or hard of hearing students, and students with cognitive disabilities. The Universal eLearner applies a curriculum-driven approach to making online educational content accessible to the largest possible number of students, including students with learning, cognitive, hearing, and visual disabilities, as well as English language learners. The American Foundation for the Blind (AFB), in conjunction with Bridge Multimedia, a New York City-based accessible media company, adapts two preexisting integrated learning modules produced for general student populations in order to develop two accessible prototypes: (1) upper-elementary social studies; and (2) upper-elementary science. To ensure that the finished prototypes support all students with specialized learning challenges, the project uses: (1) technical assessments based on AFB’s methodology for evaluating universal accessibility and usability of electronic and information technology products; (2) field testing providing quantitative and qualitative data on accessibility and usability from the perspectives of students, teachers, and parents; and (3) a representative Advisory Board with a significant role in all phases of the project.
Universal Design of Tactile Exhibits with Touch Activated Descriptive Audio for Aquariums

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Principal Investigator: Rebecca Fuller 336/722-4250  
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Project Number: H133G060284  
Start Date: October 01, 2006  
Length: 36 months  
NIDRR Officer: Edna Johnson  
NIDRR Funding: FY 06 $138,740

Abstract: The purpose of this project is to develop strategies and technologies that enhance the learning opportunities at aquariums for people who are blind or low vision (B/LV). The project evaluates current aquarium exhibit strategies related to an interpretive program and assesses barriers for people who are B/LV that functionally limit their participation in the critical learning opportunities extended to the general public. The project identifies and develops universal design best practice strategies and methodologies that enhance social integration and access to exhibit and interpretive information for persons who are B/LV. The project develops cost effective technologies to couple a user-directed tactile experience with audio descriptive information for aquarium exhibits. The project emphasizes methodologies that emphasize user involvement by persons who are B/LV in the design and evaluation of prototypical designs for aquariums.
Field Initiated Projects (FIPs)
Oregon

Development of Intelligent Personal Activity Management and Prompting Applications for Individuals with Cognitive Disabilities

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Project Number: H133G050313
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 05 $149,936; FY 06 $149,980

Abstract: This project builds on the successful development of the Picture Planner icon-driven personal activity management application, supported in part by previous NIDRR funding. One of the conclusions from field testing of that application was that there is a need for intelligent activity planning and prompting applications that combine cognitively accessible software design with innovative artificial intelligence approaches to provide smart applications for life management and decision-making. The goal of the present project is to use a consumer-driven, participatory design process to build on that foundation and develop a prototype smart planning and prompting software package for implementation on desktop and handheld platforms. The target population is individuals with significant cognitive disabilities such as mental retardation and autism. The primary outcome of this project is a field-tested and experimentally evaluated intelligent life skills management system that enables people with cognitive disabilities to improve their competence at daily activity management and enhance their community integration.
Field Initiated Projects (FIPs)
Oregon

Oregon Project Rehabilitation of Communication Skills in Dementia Through AAC

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Project Number: H133G040176
Start Date: October 01, 2004
Length: 36 months

NIDRR Officer: Shelley Reeves

NIDRR Funding: FY 04 $150,000; FY 05 $150,000; FY 06 $150,000

Abstract: The project increases access to AT by revealing which communication related devices are appropriate for persons with dementia. The goals of the research are to demonstrate that alternative and augmentative communication (AAC) use is a promising avenue for improving the lives of adults with dementia and of the families and caregivers who need to communicate with them. The study addresses the input mode of level of symbol that optimizes AAC device use for persons with moderate dementia. It compares the effectiveness of abstract symbols (printed words), two-dimensional symbols (colored photos), and three-dimensional symbols (small objects) in AAC devices. The study also addresses the effect of output mode on conversational skills of persons with moderate dementia. It compares the use of electronic voice-output devices with non-electronic devices.
**Field Initiated Projects (FIPs)**

Tennessee

## Appropriate Directional Hearing Aid Switching in School Age Children

Vanderbilt University School of Medicine

Vanderbilt Bill Wilkerson Center for Otolaryngology and Communication Sciences

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**Principal Investigator:** Todd A. Ricketts, PhD

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**Project Number:** H133G060012

**Start Date:** November 01, 2006

**Length:** 36 months

**NIDRR Officer:** Richard Johnson, EdD

**NIDRR Funding:** FY 06 $150,000

**Abstract:** Some children are being deprived of important speech information as a result of hearing loss and the high levels of classroom noise that are normally present. Traditional hearing aids are able to counteract many of the difficulties understanding speech but high levels of classroom ambient noise remain a significant problem. Recent data have shown significant benefit from directional hearing aids for children across a wide range of noisy school environments. However, it has also been established that the directional mode maybe undesirable in other listening situations, necessitating appropriate switching between directional and omnidirectional microphone modes to ensure optimum speech recognition. Unfortunately, it is not known how often and in what environments the hearing aids microphone mode needs to be switched at school to maintain optimum speech recognition and whether children can be trained to switch appropriately between directional and omnidirectional modes. In lieu of appropriate manual switching, it is not known if “state-of-the-art” automatic microphone-switching hearing aids will switch appropriately in many school environments. An “asymmetric” fitting scheme (directional in one ear and omnidirectional in the other) has been proposed as a possible alternative to both manual and automatic switching in adult listeners. It is unknown whether this asymmetric fitting will be a reasonable alternative for children. The purpose of this project is to answer these questions through a series of three investigations. These investigations include: (1) quantification of school environments with regards to the most appropriate microphone mode (directional, omnidirectional, either); (2) quantification of appropriate switching of both automatic and manual directional switching systems in school environments as a function of age, and (3) quantification of speech recognition across a range of school listening environments for asymmetric and traditional symmetric microphone fittings (both automatic and manually switched).
Project Safe EV-AC: Safe Evacuation and Accommodation of People with Disabilities

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Project Number: H133G040318
Start Date: September 01, 2004
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 04 $149,970; FY 05 $149,949; FY 06 $149,884

Abstract: The Project Safe EV-AC (Safe EVacuation and ACcommodation of People with Disabilities) Team, which includes the Job Accommodation Network and the National Organization on Disability’s Emergency Preparedness Initiative, develops high quality, comprehensive, easy-to-use safe evacuation materials that include people with disabilities. The Project Safe EV-AC Team researches prior safe evacuation studies and training products; coordinates a network of expert and end-user Advisor Groups; and produces comprehensive, yet cost-effective, safe evacuation education and training tools using the most appropriate technology for the material. Project Safe EV-AC targets certain audiences, including people with disabilities and emergency responders. The project uses a continuous improvement model with enhanced feedback loops to ensure that the products created are rigorously evaluated by those who use them. The end product includes a final report for NIDRR articulating the existing gaps in knowledge and product development in the field of safe evacuation and accommodation for people with disabilities.
Field Initiated Projects (FIPs)
Wisconsin

Functional Effects of Bifocal Use: Implications for Falling Interventions

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Project Number: H133G050340
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 05 $149,999; FY 06 $149,950

Abstract: This project conducts an integrated set of research activities to address a seriously under considered factor in falls research, the use of bifocal lenses. This project focuses on new users of bifocal glasses, typically individuals in their 4th or 5th decade, and targets a better understanding of falls intervention strategies related to eyeglass wear. Falls and fall-related injury among elders are a widely documented public health problem causing decreased function, suffering, increased health care costs, and even morbidity and mortality among older persons. Reasons for falls can be quite complex and are generally considered to be multifactorial. Specific to middle aged workers, it is known that a significant number of workplace accidents occur on stairs and uneven surfaces. Comparison of data across studies generates new knowledge about the process of adaptation to multifocal lenses with application to falls in the elderly. Recommendations are articulated not only for multifocal lens wearers but also for the producers of lenses and biomedical engineers.
Field Initiated Projects (FIPs)
Wisconsin

Development of Dynamic Pedorthosis for Improving Clubfoot Correction

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Principal Investigator: Xue-Cheng Liu, PhD
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Project Number: H133G060142
Start Date: December 01, 2006
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $150,000

Abstract: The purpose of this development project is to use advanced technologies to establish a new process to develop a customized dynamic pedorthosis for children with clubfoot. Researchers evaluate children with and without clubfoot to obtain dynamic plantar pressure using EMED Pressure System and three dimensional geometry from X-ray or CT scan. Based on this information, a computer model of the dynamic pedorthosis is developed using Computer Aided Design (CAD) and Finite Element Modeling (FEM). The analysis of FEM simulates walking with different percentage of body weight. The customized CAD model is used to construct a negative mold of the pedorthosis using Solid Freeform Fabrication, a rapid prototyping technique. Next, the pedorthosis is constructed from the negative mold. Each customized pedorthosis constructed using this approach will have different material inserts as required to correct the abnormal plantar pressure resulting from the clubfoot deformity. Finally, five patients with their customized dynamic pedorthosis are followed clinically including X-ray, in-sole plantar pressure distribution study, and functional outcome analysis. This information is used to evaluate the pedorthosis for reliability and effectiveness, and if needed, used to modify the current pedorthosis.
Clinical Reliability and Validity of a Foot Model: Assessing Efficacy and Functional Outcome with Orthotic Intervention in Children with Cerebral Palsy

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Project Number: H133G060155
Start Date: January 01, 2007
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $150,000

Abstract: Equinovalgus and equinovarus are the most common foot and ankle abnormalities reported in children with cerebral palsy (CP). Orthotic intervention is frequently prescribed for children with CP to improve their standing, walking, and every day function. However, limited evidence exists to support the impact of these devices to prevent deformities or improve function. Specifically, no long-term functional outcome studies support use of different orthoses recommended by existing foot models. This study first validates a six-segment-foot model with MRI data and assesses clinical reliability of the model with physical examination and video-taped observational gait analyses in children with CP. Second, this study assesses the efficacy of four types of orthoses and determines their benefits following a two year period, using the six-segment-foot model, Gross Motor Function Measure, and Pediatric Evaluation of Disability Inventory.
Evaluation of a Speech Translation Approach Toward Independent, Community-Based Communication for Individuals with Intellectual Disabilities and Speech Impairments

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Project Number: H133S060006
Start Date: October 01, 2006
Length: 6 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 06 $75,000

Abstract: This project develops and evaluates a prototype translator system determining the feasibility of enbling independent and effective community-based communication for persons with intellectual disabilities and speech impairments. The prototype is based on PDA technologies and provides evaluation through: (1) the ability of persons with intellectual disabilities to use it independently; (2) the effectiveness of the approach in producing correct translations; and (3) qualitative measures of social acceptance and/or stigma inspired by the approach. The personal and societal benefits of improved communication include the opportunity for increased independence, self-esteem, employability, community presence, and social connectedness for persons with cognitive disabilities and speech impairments.
Small Business Innovative Research (SBIR), Phase I  
Colorado

SSIMPLe: A Speech and Switch Input Mobile Phone that Links Everyone

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Project Number: H133S050073  
Start Date: October 01, 2005  
Length: 6 months  
NIDRR Officer: Thomas Corfman  
NIDRR Funding: FY 05 $75,000; FY 06 $0 (No-cost extension through 4/30/2006)  
Abstract: This project demonstrates the technical merit, feasibility, and cost efficiency of combining commercially available SmartPhone technology with an innovative design and state-of-the-art neural net algorithms to produce a SSIMPLe device - a Speech and Switch Input Mobile Phone (that) Links Everyone. This device enables single switch and voice-only users to independently send and receive text messages, and answer or make phone calls. Specific objectives for Phase I are to: (1) Determine the end user requirements via surveys and focus group meetings; (2) construct a prototype that incorporates a Graphical User Interface (GUI), fast Fourier transform (FFT) algorithms, and neural net algorithms to provide an easy to use interface, and to provide fast learning of numbers, names, words, and symbol associations and therefore fast prediction to maximize the efficiency of the voice command or single switch user; and (3) perform a usability analysis with actual single switch users to test the SSIMPLe device’s ability to adjust to an individual’s capabilities, and its ability to help them communicate.
Mobile Language Reference for Deaf and Hard of Hearing K-12 Students

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Principal Investigator: Jason Hurdich
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Project Number: H133S060036
Start Date: October 01, 2006
Length: 6 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 06 $74,961

Abstract: For this project, Vcom3D is developing and evaluating a proof-of-concept American Sign Language and Signed English dictionary for handheld computer and media player devices. The dictionary includes signed animations of English terms that can be difficult for Deaf learners to master including: idioms, scientific terms, and multi-sense words. Based on Vcom3D signing software, the Mobile Language Reference provides mobility and independence that leads to opportunity-based learning in the classroom, on field trips, or while reading a book anytime, anywhere. This software has potential as a commercial product for use on multiple handheld computing platforms and other educational and game platforms developed by third parties.
Small Business Innovative Research (SBIR), Phase I
Illinois

Empirically Supported Job Interviewing Skills Training for People with Disabilities: A Multimedia-Based Computer Simulation Approach

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Project Number: H133S060051
Start Date: October 01, 2006
Length: 6 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 06 $74,910

Abstract: Based on demand-side job interview research, this project develops a prototype, multimedia-based software designed to teach job seeking and interview skills to people with disabilities. The software is developed for persons with disabilities in vocational rehabilitation, rehabilitation counselors, rehabilitation counselor educators, and human resources professionals. The software can be used as an evaluation and training tool for persons with disabilities in vocational rehabilitation. Additionally, the software may be used as a disability sensitivity tool for human resource professionals to assist in the identification of disability bias patterns in making hiring decisions.
Small Business Innovative Research (SBIR), Phase I
Maryland

A Smart-Phone Based Text and Sign Reader for Persons with Visual Disabilities

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Principal Investigator: Huiping Li
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Project Number: H133S060055
Start Date: October 01, 2006
Length: 6 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 06 $74,940

Abstract: This project demonstrates the technical feasibility of smart-phone based technology that utilizes a text and sign reader, a portable software module, is compatible with existing personal devices, and provides access to textual materials for persons with visual disabilities. Previous work on Optical Character Recognition is applied to cutting edge recognition technology for mobile devices which assist persons with low vision with basic daily activities such as shopping, preparing meals, taking medications, and reading signs. This technology offers several advantages: (1) it makes use of a single, portable device (smart phone) that is commonly available and typically already carried for its telecommunications capabilities; (2) it can be used selectively by users so that they will not be overwhelmed by irrelevant information from the environment; and (3) it can be integrated directly with other applications for specialized tasks.
**Small Business Innovative Research (SBIR), Phase I**

**Maryland**

**Playmation: A Manipulative Story Animation System to Improve Language, Theory of Mind, and Sequencing Skills in Children with Autism**

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**Principal Investigator:** Shannon Mayhew  
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**Project Number:** H133S060050  
**Start Date:** October 01, 2006  
**Length:** 6 months  
**NIDRR Officer:** Delores Watkins  
**NIDRR Funding:** FY 06 $75,000

**Abstract:** The Playmation prototype by Intelligent Automation, Inc., utilizes new technology to integrate the powerful learning modalities of touch and manipulation within the familiar instructional paradigm of picture and sentence strips. This system enables a child to create a three-dimensional character and move that character across a picture strip to communicate a story. A web camera connected to a computer captures the movement, machine vision software identifies the child’s play patterns, and story software translates these patterns into an animated movie or a printable storybook. Children using this system may improve in sequencing, theory of mind, and language skills especially in the case of children with autism. Playmation is marketed as an education manipulative product in four principle markets: (1) public and private PreK-3 education, (2) Reading First and directly related programs, (3) Head Start pre-school programs, and (4) IDEA/special education.
RF Tag and Development Systems for Manipulative Educational Activities

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Project Number: H133S060071
Start Date: August 27, 2006
Length: 8 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 06 $74,910

Abstract: This project designs, tests, and evaluates the Teach ME system. The Teach ME system embodies universal design for learning principles by using smart sensor technology to create manipulative activities for all students and specifically addresses the needs of students with cognitive disabilities. Research identifies a family of radio frequency (RF) passive tags, both regular and anti-collision, and a reader(scanner) chip that supports a variety of dual tag educational applications. RF passive tags provide a cost-effective way to build knowledge into the education environment and support manipulative education activities, while providing concrete objects required by students with special needs.
System for a Collaborative and Dynamic Wheelchair Navigation Aid

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Principal Investigator: Patrick Lichter
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Project Number: H133S060029
Start Date: October 01, 2006
Length: 6 months

NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 06 $75,000

Abstract: In this project, Koronis Biomedical Technologies Corporation develops and evaluates a prototype navigation device which attaches to a wheelchair and wirelessly communicates to a web-based navigation application. This navigation aid includes a small portable tablet PC that connects to the Internet using a wireless modem. This tablet PC also connects to a USB Global Positioning System (GPS) module and a prototype Navigation Sensor Module. The system allows a wheelchair user to plan and navigate a route with respect to safety and shortest travel path while collecting data on location, orientation, and pathway quality. The resulting system incorporates a collaborative model where individual users can easily input their observations as they travel throughout the city and an interactive graphical user interface providing a means for route input and retrieval using a portable touch-screen computing device.
Conducting Online Transactions Using Non-Visual Modalities

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Project Number: H133S060042
Start Date: October 01, 2006
Length: 6 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 06 $74,898

Abstract: This project explores the feasibility of building Tiresias, a model-directed system empowering persons with visual impairment to conduct web transactions such as purchasing goods and paying utility bills online using non-visual modalities. Tiresias addresses current information overload problems by delivering relevant content through the coupling of content semantics with model-directed navigation. Throughout every step of navigation, the user is presented with a relevant subset of content in the web page to listen to and take an action. Content is identified using techniques ranging from simple keywords to sophisticated concept classifiers. The development of Tiresias draws on the techniques of content analysis, knowledge engineering, machine learning, and the effective use of speech technology.
Why Go It Alone? The Use of Public Resources to Enhance Computer Accessibility for Individuals with Cognitive Disabilities

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Principal Investigator: Laurie Ehlhardt, PhD
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Project Number: H133S060072
Start Date: October 01, 2006
Length: 6 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $75,000

Abstract: Individuals with cognitive impairments (CI) represent one of the fastest growing disability groups in the United States. The potential for computer technology to increase social integration for this population is well documented. However, cognitive and financial barriers frequently preclude the acquisition and maintenance of personal computer hardware, software programs, and Internet service, thus significantly limiting the CI population’s participation in a digital society. The Personal Access Computer Key (PACK) is a USB drive that circumvents these barriers by providing a portable computing environment. The PACK is designed to accommodate adapted software that can be launched on publicly accessible, updated computers maintained by on-site staff. Unlike specialized, handheld computing devices that may be difficult to access due to smaller screens and keyboards, the PACK drive provides a means of accessing software programs on a standard desktop computer without the cognitive and financial burden associated with owning and maintaining such a system. Phase I employs an incremental design process to evaluate the feasibility of the PACK to launch an adapted email program (“CogLink”) on publicly accessible computers. Five participants with cognitive impairments will be recruited to participate in the study.
Small Business Innovative Research (SBIR), Phase I
Pennsylvania

Low Vision Lime: Solution for Low Vision Musicians to Perform, Edit, and Print Music Notation

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www.dancingdots.com

Principal Investigator: William McCann
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Project Number: H133S060015
Start Date: October 01, 2006
Length: 6 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 06 $75,000

Abstract: This project explores the feasibility of enhancing the well-established Lime notation software with features to benefit musicians with low vision. Enhancements include: the presentation of musical measures for the low vision reader; adding functionality by offering user-definable settings in adjusting magnification of staff notation, colors, and screen contrast, building on Windows accessibility features and third-party magnification utilities where necessary; options to view results on a large, flat-panel monitor mounted on conventional music stand; and foot switching controls. The result is stand-alone software that allows the scanning/importing of scores, reformatting of their layouts to permit musicians with low vision to read and perform the score, and accessible options for editing and printing with appropriate magnification and scrolling.
Small Business Innovative Research (SBIR), Phase I
Utah

Wireless EMG and Improved Mounting System

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Principal Investigator: Harold Sears
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Project Number: H133S060017
Start Date: October 01, 2006
Length: 6 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 06 $75,000

Abstract: This project attempts to develop a very small, water-proof electromyographic (EMG) sensor for a myoelectric arm prosthesis which transmits by a wireless link and can be easily and consistently installed over any muscle site. The wireless link eliminates wires and connectors inside the arm socket which can be bulky and unreliable due to corrosion and breakage of wires, representing a significant improvement in prosthetic arms affecting both the patient and prosthetist. Designs allow for fast and reliable mounting which improve the consistency of contact with the skin. This is obtained by mounting EMG sensors in a flexible inner liner (a “roll-on liner”), then the wireless corrosion-proof EMG sensor is securely fastened via an easy snap connection. The digital processing of EMG greatly improves EMG dependability by allowing more effective filtering for elimination of interference and noise, an ever-increasing problem in the age of cell phones and electric motors.
Small Business Innovative Research (SBIR), Phase I
Virginia


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Project Number: H133S060068
Start Date: October 01, 2006
Length: 6 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 06 $75,000

Abstract: This project creates a rehabilitation intervention prototype, My Scrivener TM, for fine motor skill development and instruction in printing. My Scrivener TM consists of two personal computers, two force-feedback peripheral haptics devices, a cable or internet connection linking the two workstations, and associated software. The project develops new classroom-ready instructional software incorporating existing telehaptics software (proSENSE) and a haptics computer peripheral device (Sensible Phantom® Omni). An advisory panel provides technical input from the perspectives of practicing school-based therapists, a handwriting researcher, an assistive technology specialist, and a physiatrist. The prototype is evaluated by eight children with impaired fine-motor skills and two general education instructors.
Small Business Innovative Research (SBIR), Phase II  
Arizona

Development of Collapsible Folding Manual Wheelchair - Phase II

Three Rivers Holdings, LLC  
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Principal Investigator: Chris Willems  
Public Contact: David Boninger 480/833-1829; Fax: 480/833-1837

Project Number: H133S030016  
Start Date: October 01, 2003  
Length: 24 months  
NIDRR Officer: Thomas Corfman

NIDRR Funding: FY 03 $247,048; FY 04 $252,848; FY 05 $0 (No-cost extension through 9/30/2006); FY 06 $0 (No-cost extension through 6/30/2007)

Abstract: In the first phase, this project designed, built, and conducted bench-top testing of a compact, forward-folding, ultralight manual wheelchair with an innovative design that incorporates “swing-down” access wheels for navigation in confined areas. This facilitates access to narrow environs such as those encountered in compact dwellings, offices, restrooms, and transportation settings. When using the access wheels, the wheelchair also fits down the aisle of airplanes and collapses to be stowed in the overhead compartment. The prototype has an adjustable axle, adjustable backrest and seat angle, and a folding design that acts like a rigid frame. Testing of the prototype confirmed that it met or exceeded ANSI/RESNA standards, and it performed equivalently or better than other comparable ultralight manual wheelchairs on those standards. In the second phase, the project: (1) continues to make design improvements to further maximize functionality and ease of use, (2) verifies that the new design meets ANSI/RESNA standards, (3) has wheelchair users evaluate the prototype after use in an Activities of Daily Living Course, and (4) has users take the chair home for an extended trial-use period that allows for an in-depth evaluation of the prototype wheelchair and allows users to compare the prototype with their personal wheelchair on a wide variety of dimensions.
Small Business Innovative Research (SBIR), Phase II
Arizona

Development of a Lightweight Adjustable, Modular Pediatric Wheelchair

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Public Contact: David Boninger 480/833-1829; Fax: 480/833-1837

Project Number: H133S050134
Start Date: October 01, 2005
Length: 24 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 05 $287,208; FY 06 $212,773

Abstract: Pediatric wheelchair users experience rapid physical growth and rapidly changing cognitive and functional skills that create unique needs that are underserved by currently available pediatric wheelchairs. In Phase I, the project designed and constructed a prototype tilt-in-space wheelchair called the PALM (pediatric, adjustable, lightweight, and modular) that is specifically designed to meet pediatric needs. Phase II project goals include: (1) To further refine the design of the PALM, (2) verify functionality of the prototype through end-user testing and evaluation on an Activities of Daily Living Course, and (3) conduct two-week take-home trials that allow for in-depth evaluation of the PALM in the natural environment of the end-user and allow parents and children to compare the PALM with the child’s own wheelchair on a wide variety of dimensions. The final result is to create a tilt-in-space pediatric wheelchair that can meet the unique needs of a growing child, can provide all the desired features of an optimal daily-use pediatric wheelchair, and can also be manufactured at low cost so that it can be made widely available to the pediatric populations in the US and international markets.
Small Business Innovative Research (SBIR), Phase II  
Colorado

WorkRight SkillBuilder: A Customizable State-of-the-Art Simulation Software System to Support Vocational Social Skills Training for Students and Adults with Intellectual Disabilities

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steve@ablelinktech.com  
www.ablelinktech.com

Principal Investigator: Steven E. Stock  
Public Contact: 719/592-0347; Fax: 719/592-0348

Project Number: H133S060099  
Start Date: October 01, 2006  
Length: 24 months  
NIDRR Officer: Dawn Carlson, PhD, MPH  
NIDRR Funding: FY 06 $250,000; FY 07 $250,000  
Abstract: In Phase I, research demonstrated the feasibility of using state-of-the-art computer avatars for providing social skills training for individuals with intellectual disabilities. The results showed a significant improvement of social skills knowledge when engaging in an independently usable assessment and training system that utilizes state-of-the-art computer simulation, animation, a multimedia framework, and universal design concepts. The WorkRight SkillBuilder system builds upon these results to create, validate, and evaluate a robust series of social skills training modules. In Phase II, additional research and development includes: (1) generating and validating 50-100 social skills training scripts; (2) developing scripts into computer animated vignettes; (3) researching options for personalizing scripts to meet the real world needs of individuals with intellectual disabilities; and (4) conducting an extended field evaluation determining the efficacy of the system for improving social skills knowledge and transference of this knowledge into practice. The WorkRight SkillBuilder system provides opportunities for increased independence, self-esteem, employability, income, community presence, and social connectedness for persons with intellectual disabilities.
Small Business Innovative Research (SBIR), Phase II
Florida

Multimedia Literacy Software for Deaf or Hard-of-Hearing, and Visual Learners

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www.vcom3d.com

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Project Number: H133S050137
Start Date: October 01, 2005
Length: 24 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 05 $249,436; FY 06 $248,277

Abstract: Persons who are Deaf or hard of hearing (D/HH) have difficulty learning to read and write proficiently. Over the last decade, several software screen readers and literacy tools have been developed for persons with blindness and learning disabilities. However, to date, none of these tools has incorporated features and functions that specifically target the needs of the (D/HH) population. This project is developing a fully functional Multimedia Literacy Software (MLSW) program that addresses the needs of D/HH, as well as other students, and identifies the best uses of the MLSW in the instruction of reading skills. The creation of a multimedia module presents a highly detailed representation of an animated human that can: Speak selected words and text segments, while demonstrating correct mouth movement to form speech sounds; automatically translate English text into Signed English, which may be viewed with or without accompanying speech; and provide ASL or Signed English definitions of selected English words. The prototype MLSW and the supporting instructional materials serve as the basis for a commercial software product that may be stand-alone or licensed and bundled with currently available and evolving assistive reading and writing software.
Small Business Innovative Research (SBIR), Phase II
Indiana

SoundAlert - A Centralized System Capable of Alerting People Who Are Deaf or Hearing Impaired of Critical Sounds in Their Environment

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www.createabilityinc.com

Principal Investigator: Stephen M. Sutter
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Project Number: H133S060109
Start Date: October 01, 2006
Length: 24 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 06 $250,000

Abstract: This project’s research and development results in a comprehensive system that delivers natural warning and communication mechanisms for people with hearing loss. The SoundAlert system offers a unique approach to enable individuals who are deaf or hard of hearing to: (1) initiate and receive emergency communications; (2) receive alerts in the workplace or home environments on a single, pocket-sized device through innovative sound discrimination techniques able to identify specific sounds with accuracy; and (3) combine this functionality with supplementation or replacement of other alerting technologies for convenience on the same single platform. The system enables outbound and inbound communication with emergency services in response to such events as evacuation or rescue information when needed, thus alleviating a major concern of this population for their personal safety. Specific goals of Phase II research include: (1) enhancing and completing the SoundAlert sensors and application; (2) adding real-time voice-to-print capability to facilitate communication; (3) performing extended evaluation of the system to evaluate its utility in a range of activities in vocational and daily living scenarios; and (4) preparing a smooth transition into Phase III commercialization of the SoundAlert product. The functionalities enhance the user’s sense of safety, security, and independence through: (1) bringing alerts of identified sound events to the user; (2) combining or replacing existing alerting systems on a single platform; and (3) implementing the delivery platform on a convenient and lightweight handheld device.
Small Business Innovative Research (SBIR), Phase II
Maryland

StoryTiles: Programmable Manipulatives to Improve Language, Sequencing, Theory of Mind, and Play Skills in Children with Autism

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Project Number: H133S040132
Start Date: October 01, 2004
Length: 24 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 04 $250,000; FY 05 $250,000; FY 06 $0 (No-cost extension through 12/31/2006)

Abstract: This project develops and field tests StoryTiles, a device with programmable manipulatives that foster language, sequencing, theory of mind, and play skills among children with autism. Children can use this device to experiment with storytelling, and in doing so, work with sequencing, creative play, and language structures as they manipulate programmable, tangible objects. In this effort, IAI conducts a study using a prototype in a preschool classroom to determine ways StoryTiles can be used for special needs inclusion activities within a mainstream classroom. Software and device designs are improved, and researchers build 15 Phase II StoryTiles devices with accompanying story publishing software. In addition, IAI works with Laureate Learning, Inc. to integrate their language learning software with StoryTiles. IAI also conducts focus group with therapists, teachers, and parents of children with autism to produce material for a StoryTiles instructional guide. Finally, IAI conducts field tests with children with autism to determine the educational effectiveness of the Phase II device.
Small Business Innovative Research (SBIR), Phase II
Maryland

Delivery of Cost-effective, Real-time, Remote Transcription Services

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Principal Investigator: Carl J. Jensema, PhD
Public Contact: 301/942-4326; Fax: 301/942-4439

Project Number: H133S050129
Start Date: October 01, 2005
Length: 24 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 05 $249,999; FY 06 $249,999

Abstract: This project focuses on establishing a low-cost, school-operated, remote real-time transcription service for students with disabilities using speech recognition technology, off-the-shelf equipment, and commonly available software. Phase I demonstrated the feasibility of this concept. In Phase II, the concept is expanded and refined through a transcription service for students with disabilities. The developed training materials are used to develop a commercial product that allows other school systems to set up transcription services for students with disabilities.
Small Business Innovative Research (SBIR), Phase II
Massachusetts

Proximity Sensing Textile as a Wearable Aid to Orientation and Mobility for Individuals with Visual Impairment

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Project Number: H133S060100
Start Date: October 01, 2006
Length: 24 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 06 $250,078

Abstract: This project continues development of Proximity Sensing Textile as a wearable, electronic travel mobility aid that preserves the comfort, appearance, and dignity of everyday apparel. Proximity Sensing Textile is a smart textile array of infrared sensors embedded in conventional clothing that detects and reports hazards such as drop-offs, overhangs, and jutting objects to the wearer. The clothing supplies hazard avoidance cues to the wearer that complement orientation, mobility, and navigation information accessible to the wearer from wayfinding systems, be they infrared, GPS, or radio technology based. In Phase II, a textile results that actively interrogates the immediate environment of the wearer for hazards and reports them through cues designed into the clothing. Commercial applications exist for individuals with mobility impairments who have difficulty scanning the physical environment because of range of motion limitations such as people with cerebral palsy, spinal cord injury, or spina bifida, among other disabilities.
Small Business Innovative Research (SBIR), Phase II
Minnesota

Powered Mounting and Positioning System

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dianne@blueskydesigns.us
www.blueskydesigns.us

Principal Investigator: Dianne Goodwin
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Project Number: H133S060096
Start Date: October 01, 2006
Length: 6 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 06 $237,212

Abstract: In Phase two, a powered mounting and positioning system is developed and provides independent access to communication devices, work surfaces, books, cell phones, PDAs, food, drinks, and more for individuals with significant limitations. Device positioning is controlled through switches, voice, or joystick control. Programming is accomplished with a single switch. A person may move the mount to one of four custom set positions and make independent adjustments to each joint, the tilt, and the height. For example: tilting or rotating a communication device display to avoid glare. With a powered positioning system and the ability to rotate whatever object is mounted 360 degrees, different devices (a book, cell phone, and AAC device) mounted on a single tray can be rotated into position, allowing a person to change activities or access other items. This technology can be applied outside the rehabilitation field. The commercial potential extends to other areas, such as manufacturing and assembly settings, doctors, dentists, surgeons, hospital beds, photography and lighting applications, ergonomic workstations, nursing homes, schools, laboratories, and home entertainment systems. The increased independence gained has a substantially positive impact on a person’s self-reliance, their work and school performance, and their sense of control.

Leamimation, LLC
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www.learnimation.com

Principal Investigator: Sarah Manning
Public Contact: 212/496-7536

Project Number: H133S050167
Start Date: October 01, 2005
Length: 24 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 05 $251,261; FY 06 $248,739

Abstract: This project builds and evaluates a universally designed, handheld/wireless educational software intervention that trains students with learning disabilities (LD) and their teachers to use a metacognitive strategy for translating mathematical word problems into visual-spatial schematic models. This intervention is based on the prototype created in Phase I. Phase I research suggests that a universally designed, research-based, handheld-based, visual-spatial metacognitive strategy technique offers great promise as a cost-effective mathematics intervention for students with LD. The resulting commercial software product will improve the capacity for mainstream teachers to assist students with LD in reaching their full potential in mathematics.
Small Business Innovative Research (SBIR), Phase II  
New York

**Web-Enabled Creation and Distribution of Audio-Tactile Maps for Use in Orientation and Mobility Training**

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**Principal Investigator:** Steven Landau  
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**Project Number:** H133S060105  
**Start Date:** October 01, 2006  
**Length:** 24 months  
**NIDRR Officer:** Phillip Beatty  
**NIDRR Funding:** FY 06 $254,823

**Abstract:** Phase II of this project develops a system for providing one-off, talking, tactile neighborhood maps on demand for use by individuals who are blind, have low vision, or have other print disabilities. Files downloaded from a website are used to create raised-line maps from standard Braille embossers or using other methods. The finished maps are placed on a Talking Tactile Tablet, a computer peripheral device, and the user interacts with a map by exploring it through touch sense, pressing down on streets and other features to hear names and descriptions of map entities of interest. The system, TMAP Reader, includes a web service for requesting maps of any location in the US, a software application for outputting downloaded map files to a standard Braille embosser, an application that facilitates user interaction with the maps, and a map production and delivery service for novice users or users without access to equipment for outputting maps. Additional Phase II research demonstrates how this technology can be used to create other kinds of talking tactile maps on demand, including transit system, campus, city, and regional maps, and includes considerations of how these could be used in teaching geography, history, and other subject matter.
Small Business Innovative Research (SBIR), Phase II
New York

Diabetes Communications for the Disabled

Med Graph, Inc.
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Rochester, NY 14612
info@med-graph.com
www.med-graph.com

Principal Investigator: Ed Schlueter
Public Contact: 585/453-9437

Project Number: H133S060097
Start Date: October 01, 2006
Length: 24 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 06 $247,443

Abstract: Med Graph, Inc. (MGI) successfully proved the feasibility of the Life Improvement Portal (LIP) Glucose Monitoring System (GMS) for persons with vision and hearing disabilities. During Phase II, MGI refines and readies the pre-production prototype for the Phase III commercialization by incorporating additional consumer input into its design, further developing the GMS capabilities to include voice output, and testing the effectiveness and consumer satisfaction levels via clinical trials. GMS works in conjunction with LIP to collect, store, analyze, and track glucose readings for people with diabetes. The GMS connects, via a standard phone line, to the LIP to ensure that the person with diabetes is immediately notified of low, normal, and high glucose thresholds that have been established by their physician. The LIP uploads glucometer information at the push of a button or at predetermined intervals throughout the day into the secure central server. Once transmitted, data is analyzed for emergency indicators, and priority information is reported back to the diabetic user via feedback from the LIP. Physicians are able to immediately access this information via the central server, helping to avoid complications from fluctuating glucose levels. All aggregated data can then be viewed by the person with diabetes, an approved caregiver, or a physician in graphical formats via a secure website that is accessible to W3C standards.
Disability Access

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Project Number: H133S050165
Start Date: October 01, 2005
Length: 24 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 05 $237,315; FY 06 $234,105

Abstract: Phase I of this project combined software and on-site training program for persons with disabilities and their families who lack the usual prerequisites for success in computer-based learning. The Phase II project is expanding the prototype of computer-based instruction created in Phase I into an empirically validated commercial product. The project’s technical objectives are: (1) The development of a unique virtual school house model to meet the identified needs of individuals with disabilities and their families living in remote, disadvantaged communities, and (2) the empirical assessment of the impact of training using this model for different demographic groups and under different training conditions. Testing is conducted on reservations serving Sioux, Chippewa, and the Three Affiliated Tribes.
Small Business Innovative Research (SBIR), Phase II
Pennsylvania

Universal Access to Passenger Rail

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Project Number: H133S050136
Start Date: October 01, 2005
Length: 24 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 05 $249,825; FY 06 $249,925

Abstract: Freight rail shares train tracks with passenger rail cars. The differences in car width result in horizontal gaps between passenger rail cars and boarding platforms. This gap creates safety hazards not only for wheelchair users but also for the elderly, for individuals with visual impairment, and even for other passengers boarding rail cars. This project continues the research on the Phase I prototype QuickRamp™. Phase II activities optimize QuickRamp’s™ strength, durability, and drive mechanisms; and evaluate the system for safety and usability. This technology provides a universal solution to the rail access problem and solves platform-to-rail car access for all potential rail passengers including individuals using wheeled mobility, children, individuals with visual impairment, and the elderly. Additionally, it eliminates rail personnel assistance for individuals with disabilities boarding or exiting trains, ensuring passenger independence for all train riders.
Small Business Innovative Research (SBIR), Phase II  
Texas  

Increasing Mobility Through Advanced Power Sources for Assisted Mobility Devices  

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Principal Investigator: Jeremy Steinshnider, PhD  
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Project Number: H133S060098  
Start Date: October 01, 2006  
Length: 24 months  
NIDRR Officer: Thomas Corfman  
NIDRR Funding: FY 06 $294,890  

Abstract: Lynntech, Inc. develops a high-capacity hydrogen storage system for a fuel cell/battery hybrid power supply for electric wheelchairs and scooters. The light-weight, rugged, simple to recharge, and environmentally friendly system is fabricated to deliver over 1.2 kW of peak power and optimized for an average power use of 430 W, weigh 20 kg, and deliver 12,000 Watt hours of energy, equivalent to over 28 hours continuous run-time without recharging. The resulting power supply permits a powered mobility aid to operate, under typical usage, for up to two weeks between recharging. This equates to a ten-fold increase in range for high power systems such as TEFTEC’s OmegaTrac wheelchair. Lightweight, compact, low power versions of the system have commercial application in pushrim activated power-assisted wheelchairs. Initial production expects to focus on systems that can be retrofitted to existing wheelchairs and scooters.
Development of a Nemeth Math to Latex Backtranslator System

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Principal Investigator: Deepa Gopal
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Project Number: H133S050160
Start Date: October 01, 2005
Length: 24 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 05 $249,500; FY 06 $62,650

Abstract: Phase II project objective is to extend and enhance the prototype developed in Phase I to obtain a reliable, robust, and complete software environment for backtranslating mathematical documents (containing mathematical expressions coded in Nemeth Math code as well as regular text coded in ASCII Grade 2 Braille) to Latex. This project is conducting research on: (1) automatic detection and recovery from errors in the Math document encountered during backtranslation; (2) automatic identification of parts of the documents that contain text, mathematics, and spatial arrangements respectively; and (3) allowance for hard copy input via Optical Braille Recognition. The system greatly facilitates students, scientists, and engineers with visual impairments to communicate with their sighted instructors and colleagues.
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.

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Rehabilitation Research and Training Centers (RRTCs)
California

Rehabilitation Research and Training Center on Personal Assistance Services

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Project Number: H133B031102
Start Date: July 01, 2003
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 03 $900,000; FY 04 $900,000; FY 05 $900,000; FY 06 $900,000

Abstract: This project provides research, training, dissemination, and technical assistance on issues of personal assistance services (PAS) in the United States. Center projects focus on: (1) the relationship between formal and informal PAS and caregiving support, and the role of AT in complementing PAS; (2) policies and programs, barriers, and new models for PAS in the home and community; (3) workforce development, recruitment, retention, and benefits; and (4) workplace PAS models that eliminate barriers to formal and informal PAS and AT at work. The Center is based at the University of California, San Francisco, and includes the Topeka Independent Living Resource Center, InfoUse, the Paraprofessional Healthcare Institute, the Institute for the Future of Aging Services, as well as faculty members at the University of Maryland, Baltimore County Policy Sciences Graduate Program, the West Virginia University Job Accommodation Network, and the University of Michigan’s Institute of Gerontology and the Department Health Management and Policy. A Blue Ribbon Advisory Committee of PAS users, disability advocates, business leaders, independent living center leaders, and academics provide guidance to the project.
Rehabilitation Research and Training Centers (RRTCs)
Florida

Rehabilitation Research and Training Center for Children’s Mental Health

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Project Number: H133B040024
Start Date: October 01, 2004
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 04 $835,000; FY 05 $835,000; FY 06 $835,000
Abstract: The Research and Training Center Children’s Mental Health conducts an integrated set of research projects designed, in the short run, to enhance knowledge about effective implementation of systems of care, and, in the long run, to make it possible for children with serious emotional disturbances to live, learn, work, and thrive in their own communities. The Center has developed a theory of factors that contribute to effective implementation; within that theory is a strong emphasis on the importance of understanding from a systemic perspective the interrelationship between the different factors, and their relationship to the community culture and context in which a service delivery system exists. The Center has a set of six interconnected research projects that use both quantitative and qualitative methods, and are holistic in their focus, to further test and develop its theory. The Center translates new knowledge from research into change in policy and practice through a targeted program of training, consultation, technical assistance, publication, and dissemination. To support these efforts, the Center maintains dissemination partnerships with a range of organizations committed to help present research findings in formats well-suited for key audiences of state and local policy makers, family organizations, researchers, and representatives of related service sectors.
Rehabilitation Research and Training Centers (RRTCs)
Illinois

Rehabilitation Research and Training Center on Aging with Developmental Disabilities

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Project Number: H133B031134
Start Date: October 01, 2003
Length: 60 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 03 $750,000; FY 04 $749,998; FY 05 $750,000; FY 06 $749,997
Abstract: The mission of the RRTCADD is to have a sustained beneficial impact on the health and community inclusion of adults with intellectual and developmental disabilities (I/DD) as they age through a coordinated set of research, training, and dissemination activities. Major goals are: (1) improving health and function of adults with I/DD, (2) enhancing caregiving supports and transition planning among older caregivers and other family members, and (3) promoting aging and disability friendly environments that enable adults with I/DD to participate in community life. Each goal is addressed through coordinated and complementary sets of activities within the core areas. Projects promoting health and functioning include: examination of age-related changes, epidemiological surveys, research on health care utilization, and development of community-based health promotion interventions. To enhance caregiving supports and transition planning, RRTCADD research includes epidemiological surveys on family demographic and health characteristics, including families of minority backgrounds and families of persons with dual diagnoses of I/DD and psychiatric impairments; sibling roles and interventions in transition planning; and consumer direction in family support. Projects examining aging and disability-friendly environments include research to identify features of communities and residences that hinder and assist community integration as people with I/DD age, state policies regarding nursing home use, and dementia care in family homes and other community residences. Training and dissemination activities involve collaborations with national provider, professional, and consumer organizations to enhance skills and to promote progressive interventions and policies.
Rehabilitation Research and Training Centers (RRTCs)
Kansas

Rehabilitation Research and Training Center on Full Participation in Independent Living

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Project Number: H133B000500
Start Date: January 01, 2001
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 01 $499,876; FY 02 $661,864; FY 03 $626,364; FY 04 $499,876; FY 05 $0
(No-cost extension through 12/31/2006); FY 06 $0 (No-cost extension through 6/30/2007)
Other Funding: FY 02 $299,999 (NIDRR Dissemination & Utilization)
Abstract: Through research, training, and dissemination, this project makes available person-environment strategies that enable full participation in society by persons with disabilities from diverse cultures, varying socioeconomic strata, and emerging disability populations. This mission is implemented through multiple research and training activities that are influenced by independent living (IL) philosophy and values; for example, participatory action research is emphasized, in which consumers take an active role throughout the research process. The RRTC develops, tests, and uses measurement tools to investigate the interactional relationship between personal and environmental factors and their effects on full participation in IL by the designated populations. Based on the project’s Analytical Research Framework, the four core areas of intervention development and testing include: (1) increasing the knowledge base about the emerging universe of disability, (2) community participation and wellness, (3) cultural IL accommodations, and (4) personal and systems advocacy.
Rehabilitation Research and Training Centers (RRTCs)
Kansas

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

The University of Kansas
Research and Training Center on Independent Living
1000 Sunnyside Avenue
Room 4089 Dole Center
Lawrence, KS 66045-7555
rtcil@ku.edu
www.rtcil.org

Principal Investigator: Glen W. White, PhD 785/864-4095
Public Contact: Pam Wilits 785/864-4095 (V); 785/864-0706 (TTY); Fax: 785/864-5063

Project Number: H133B060018
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 06 $649,839

Abstract: The goal of the Research and Training Center on Measurement and Interdependence in Community Living (RRTC/MICL) 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. RRTC/MICL 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 (HCBS) 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. Finally, 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)
Massachusetts

Rehabilitation Research and Training Center Recovery and Recovery Oriented Psychiatric Rehabilitation for Persons with Long Term Mental Illness

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Principal Investigator: Marianne Farkas, ScD; E. Sally Rogers, ScD 617/353-3549
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Project Number: H133B040026
Start Date: November 01, 2004
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 04 $750,000; FY 05 $750,000; FY 06 $750,000
Abstract: This project focuses on the concepts and dimension of recovery and the various factors that inhibit and facilitate recovery from long-term mental illness by a comprehensive and meritorious set of research projects and training, technical assistance, and dissemination activities. The research and the training, dissemination, and technical assistance programs are organized into the following three programmatic areas of investigation and development: concepts and dimensions of recovery; factors enhancing recovery, and factors inhibiting recovery. The research projects are designed to have an impact on the field at multiple levels, including the personnel level as well as the program and system levels. Research projects use a participatory research process with significant input from consumers and other stakeholders, and culminate in dissemination, training, or technical assistance activities to maximize the input of the research program. The Training, Dissemination, and Technical Assistance (TDTA) projects are designed to provide exposure, experience, and expertise levels of knowledge transfer. The TDTA program produces new technologies in recovery and psychiatric rehabilitation, as well as increases the likelihood that researchers, service providers, and others use the cumulative knowledge developed by the RRTC. The RRTC is tied together by its programmatic focus on three specific core areas, strengthened by the use of appropriate research strategies, and assisted by a vigorous program of training, technical assistance, and dissemination activities designed to maximize the impact of the RRTC at all levels in the field of psychiatric rehabilitation.
Rehabilitation Research and Training Centers (RRTCs)
Massachusetts

Opening Doors for Children with Disabilities and Special Health Care Needs

Children’s Hospital
Institute for Community Inclusion
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Principal Investigator: Judith S. Palfrey, MD
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Project Number: H133B060012
Start Date: October 01, 2005
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 06 $800,000

Abstract: This rehabilitation research and training center (RRTC) on children with disabilities who have special health care needs (CYDS) tests the effectiveness of two intensive interventions, integrated transition planning and community participation in recreation and fitness, and demonstrates the viability of a screening tool to promote access to services and supports for traditionally underserved communities. Research activities include two intervention projects that use randomized controlled designs to improve the educational and recreational activities of CYDS and a demonstration project to improve the early identification of CYDS from traditionally underserved communities. Research Study 1 investigates the use of a regional interagency team that integrates innovative practices in education, social services, and medical support for transition aged students. Research Study 2 builds off of innovative practices in recreation and volunteer training to examine a model that integrates CYDS into community recreation activities. Research Study 3 models the integration of a reliable screening mechanism into the flow of activity at a busy, urban neighborhood health center. The RRTC is a collaboration of the Massachusetts Consortium for Children with Special Health Care Needs, the Parent Advocacy Coalition for Educational Rights (PACER), and six Multicultural Community Based Organizations that serve traditionally underrepresented communities. RRTC staff and collaborators include nationally and internationally known experts in pediatrics, nursing, public policy, education, family advocacy, rehabilitation, and community organizing.
Research and Training Center on Community Living (RTC/CL)

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Principal Investigator: Charlie Lakin, PhD 612/624-5005
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Project Number: H133B031116
Start Date: October 01, 2003
Length: 60 months

NIDRR Officer: Dawn Carlson, PhD, MPH

NIDRR Funding: FY 03 $750,000; FY 04 $750,000; FY 05 $750,000; FY 06 $750,000
Other Funding: FY 04 $1,340,000 FY 04 $300,000 (Administration on Developmental Disabilities), $70,000 (Centers for Medicare and Medicaid Services), $295,000 (NIDRR Field Initiated Projects), $300,000 (Illinois Planning Council on Developmental Disabilities), $25,000 (Centers for Disease Control and Prevention, Center on Birth Defects and Developmental Disabilities), $300,000 (College of Direct Support web-based training program), $30,000 (Partners in Community Supports), $60,000 (University of Minnesota)

Abstract: The Center conducts research, training, technical assistance, and dissemination to enhance inclusion and self-determination of citizens with intellectual and developmental disabilities (ID/DD). The research program has six outcome areas: policy studies, database supports for full participation, self-determination and consumer-control, workforce development, and quality assessment and improvement systems. The research program within the priority areas includes: (1) research syntheses of the state of knowledge and practice; (2) secondary analyses of high quality, topically relevant national and state data sets; (3) case studies of best practices; (4) evaluation of demonstration efforts to improve policy and practice; (5) survey and interview studies of critical issues; and (6) group process studies with key constituencies. An integrated intramural training program addresses the development of skilled disability researchers and community service professionals. Outreach training programs provide training and technical assistance to agencies and individuals providing support to people with ID/DD, including members of their families. The College of Direct Support provides on-line interactive multi media training to thousands of direct support professionals across the US. Outreach programs include conferences and workshops for a wide variety of national, regional, and state audiences, a state-of-the-art conference, annual “Reinventing Quality” conference, and intensive technical assistance with community organizations, including advocacy and self-advocacy organizations. The Center disseminates practical information to targeted audiences through its internal publication program that includes: IMPACT, Policy Research Brief, DD Data Brief, and Frontline Initiative. It maintains high standards for scholarly productivity and publication through books, journal articles and technical reports. About 18,000 people visit Center websites each month for access to view publications or other information on best practices in person-centered services (“QualityMall.org”), national statistics on services and expenditures, the direct support workforce, and other contemporary topics.
Rehabilitation Research and Training Centers (RRTCs)
Oregon

Rehabilitation Research and Training Center for Community Integration for Individuals with Disabilities, Strengthening Family and Youth Participation in Child and Adolescent Mental Health Services

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Project Number: H133B040038
Start Date: October 01, 2004
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 04 $835,000; FY 05 $835,000; FY 06 $835,000
Abstract: This project conducts research, training, and technical assistance activities to study and promote effective, community-based, culturally competent, family-centered, individualized, and strength-based services for children and youth with emotional or behavioral disorders and their families. Projects include: (1) “Community Integration (CI) of Transition-Age Youth,” designed to gain understanding of CI and related concepts from the perspectives of transition-age youth, young adults, and caregivers; (2) “Transforming Futures: Research on Expanding the Career Aspirations of Youth with Mental and Emotional Disorders,” explores transition experiences; (3) “Partnerships in Individualized Planning” develops an intervention to increase youth and family member participation in the individualized service planning process, a conceptual framework for understanding recovery in children’s mental health, and ways to reduce stigma; (4) “Work-Life Integration” addresses CI for adult caregivers of children and youth with emotional disorders, specifically around maintaining employment. It is designed to influence human resource professionals’ practice, and aims to reduce stigma and increase organizations’ family friendliness; (5) “Transforming Transitions to Kindergarten” focuses on the preschool-kindergarten transition for young children with challenging behaviors. It develops and tests an intervention promoting children’s successful school entry while empowering caregivers; (6) “Practice-Based Evidence: Building Effectiveness from the Ground Up,” conducts a case study in partnership with a Native American youth organization and the National Indian Child Welfare Association, and addresses the need to study practices that are believed to be helpful, but for which little evidence exists.
Rehabilitation Research and Training Centers (RRTCs)  
Pennsylvania

Rehabilitation Research and Training Center Promoting Community Integration of Individuals with Psychiatric Disabilities

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Collaborative on Community Integration  
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**Principal Investigator:** Mark Salzer, PhD  
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**Project Number:** H133B031109  
**Start Date:** October 01, 2003  
**Length:** 60 months  
**NIDRR Officer:** Bonnie Gracer  
**NIDRR Funding:** FY 03 $749,212; FY 04 $749,816; FY 05 $749,803; FY 06 $749,713

**Abstract:** The goal of this Center is to insure that people 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. The Center’s five year mission focuses on three core areas: (1) Factors Associated with Community Integration develops a coherent conceptual framework for community integration and identifies key factors, intervention models, and appropriate instrumentation and research methodologies; (2) Policies Associated with Community Integration identifies, develops, and assesses the effectiveness of a range of public policies and system strategies promoting community integration and engage key stakeholders in learning about and utilizing the Center’s findings; and (3) Intervention Supports that Assist Community Integration identifies, develops, and assesses the effectiveness of support service interventions promoting community integration, and provides training, technical assistance, and dissemination based on those initiatives to change behaviors and practices of key stakeholders. This Center capitalizes upon the longstanding history of collaboration among three Philadelphia-based central partners: The University of Pennsylvania, the peer-operated Mental Health Association of Southeastern Pennsylvania, and The Matrix Center at Horizon House, Inc.
Rehabilitation Research and Training Centers (RRTCs)
Texas

Rehabilitation and Training Center on Community Integration of Persons with TBI

The Institute for Rehabilitation and Research (TIRR)
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Project Number: H133B031117
Start Date: November 01, 2003
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 03 $799,960; FY 04 $799,968; FY 05 $799,936; FY 06 $799,450
Abstract: The research program of this project includes: development and evaluation of a social network mentoring program; an investigation of racial/ethnic differences in acceptance of disability, community integration needs, barriers, and supports; a distance learning program to train family members in rural areas as paraprofessionals; assessment of employers’ attitudes toward persons with TBI and a pilot educational intervention to reduce attitudinal barriers in the workplace; a randomized clinical trial to assess the effectiveness of a brief substance abuse intervention; a qualitative exploration of intimacy following TBI; and a study investigating the role of social communication abilities and environmental factors on social integration.
Training projects include: a National Information, Educational Resources, Dissemination, and Technical Assistance Center for the Community Integration of Individuals With TBI; development of educational materials for increasing community awareness of TBI and reducing attitudinal barriers; adoption of a social action network program from disability studies for improving positive identity; partnering with artists in the community to implement a Center for Creative Expressions for Persons with TBI; training of community healthcare professionals in the community integration needs of persons with TBI; a rehabilitation fellowship in community integration of persons with TBI; and a state-of-the-science conference and book on community integration.
Asset Accumulation And Tax Policy Project

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Law, Health Policy, and Disability Center
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disability.law.uiowa.edu/lhpdc/projects/assetdevtaxpol.html

Principal Investigator: Peter D. Blanck, PhD, JD 319/335-9043
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Project Number: H133A031732
Start Date: November 01, 2003
Length: 60 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 03 $299,991; FY 04 $299,991; FY 05 $299,991; FY 06 $299,991
Abstract: This project develops and disseminates a new and comprehensive body of knowledge to multiple target audiences nationwide to improve the economic independence, social empowerment, and community integration of persons with disabilities. Researchers examine systematically the relationship between tax policy and asset accumulation for persons with disabilities, and resultant improvements in economic and community integration. The project investigates the impact of multiple intervention strategies — including financial education, matched savings accounts, expanded financial services, and increased use of state and Federal tax incentives for asset and community economic development — in six states and ten pilot demonstration sites nationwide on youth in transition and adults with disabilities. This project is a collaborative effort of The Law, Health Policy, and Disability Center at the University of Iowa College of Law, Southern New Hampshire University School of Community Economic Development, the National Federation of Community Development Credit Unions, the World Institute on Disability, and the National Cooperative Bank Development Corporation.
The Impact of Interventions on Self-Determination and Adult Outcomes

University of Kansas
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Project Number: H133A031727
Start Date: October 01, 2003
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 03 $299,313; FY 04 $299,967; FY 05 $299,616; FY 06 $299,744
Abstract: This project conducts three semi-longitudinal, national studies examining the impact of interventions to promote the self-determination of students with high incidence and low incidence disabilities, and students who are at-risk for less desirable adult outcomes on student self-determination, adult outcomes, and quality of life. In all three studies, participants receive instruction for several years (with annual measurements) and adult outcomes are measured during the next two years, post-high school. The first study focuses on students with learning disabilities, mild intellectual disabilities, and emotional/behavioral disorders. The second study focuses on students with moderate to severe intellectual disabilities, multiple disabilities, and severe autism. The third study focuses on students with disabilities from foster systems or juvenile justice systems. For the school-based studies of students with learning disabilities and mental retardation, participating school campuses are randomly assigned to treatment conditions. An alternate treatment-control group design ensures that each site obtains training in self-determination related supports, but one level of training does not involve direct instruction with students. Research follow-up in the first and second years post-high school for all study participants will yield information about the impact of services and instruction using self-determination and student involvement during high school and in transition services on the study sample. This investigation will provide a firm evidence base for student-directed learning and self-determination in school and community resource settings.
Disability and Rehabilitation Research Projects
Oregon

TBI Transition System (T-BITS): 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

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 TBI Transition System (T-BITS). Researchers evaluate the effectiveness of the T-BITS 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).
Identification and Reporting of Violence By People with Disabilities

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selfdeterminationohsu.org

Principal Investigator: Mary Ann Curry 503/494-8655
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Project Number: H133A031724
Start Date: December 01, 2003
Length: 60 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 03 $300,000; FY 04 $300,000; FY 05 $300,000; FY 06 $300,000
Abstract: The purpose of this project is to reduce the prevalence of violence against people with disabilities. People with disabilities are at substantially higher risk for violence, abuse, and criminal victimization than the general population. The identification and reporting of violence typically involves individuals’ self-identifying as victims and accessing safety and reporting information and resources, as well as the availability of sensitive and accessible reporting methods. The goal of this project is to improve the identification, reporting, and response to violence against persons with disabilities living in the community by: (1) validating the efficacy of a culturally sensitive approach to promote violence screening, safety behaviors, disclosure and reporting by women with disabilities; (2) increasing knowledge of the extent to which current crime reporting methods incorporate disability status and accommodation information, and the barriers faced by police jurisdictions across the nation in documenting and facilitating crime reporting by persons with disabilities; and (3) identifying practices and policies that promotes and support violence disclosure and reporting by individuals with disabilities.
Field Initiated Projects (FIPs)
Arizona

The Texas Trilingual Initiative: Providing Effective Communication for Persons who are Deaf or Hard of Hearing and Hispanic

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Principal Investigator: Roseann Gonzalez, PhD; Paul Gatto, CPhil
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Project Number: H133G040115
Start Date: November 01, 2004
Length: 36 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 04 $149,957; FY 05 $149,957; FY 06 $149,957

Abstract: The Texas Trilingual Initiative is an innovative and efficient Trilingual Interpreter Certification Program that addresses an under-recognized “trilingual” language barrier (American Sign Language (ASL), English, and Spanish) that affects deaf and hard of hearing Hispanics. This barrier presents access problems for deaf and hard of hearing Hispanics, who may use only ASL but must communicate with both English and Spanish speakers, often at the same time. This trilingual language barrier often affects Hispanic deaf and hard of hearing children who learn ASL in school, but whose parents speak Spanish and whose service providers speak English. Providing access to critical educational, health, legal, and social services requires interpreters who can competently bridge these three differing cultures and languages. This certification program — to be conducted in partnership with the Texas Department of Assistive and Rehabilitative Services - Division for Deaf and Hard of Hearing Services — includes the development, piloting, and validation of beginning and advanced level trilingual interpreting certification tests to assess interpreting capability from Spanish/English to ASL and ASL to Spanish/English.
Curriculum on Abuse Prevention Education (CAPE)

World Institute on Disability
510 16th Street, Suite 100
Oakland, CA 94612-1502
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www.wid.org

Principal Investigator: Marsha Saxton, PhD
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Project Number: H133G050321
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 05 $149,670; FY 06 $149,670

Abstract: The goal of this project is to reduce the incidence of abuse of people with disabilities receiving personal assistance in the community, through educating service providers and people with disabilities about abuse awareness and abuse prevention strategies. The CAPE curriculum is comprised of one volume with two sections: (1) a curriculum on abuse prevention for providers, and (2) a workbook for consumers. The curriculum explores fundamental issues of abuse, best-practices training approaches, and personal narratives of successful abuse interventions. The workbook offers highly motivational learning resources relevant to daily life, such as learning games, cartoons, and empowering quotes from people with disabilities. This mixed-media volume also includes one- or two-page modules for providers to easily adapt the learning activities for use at disability community events, rehabilitation sessions, and independent living training.
Homeless Mentally Ill: Strategies for Maintaining Residential Stability

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Project Number: H133G040320
Start Date: December 01, 2004
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 04 $149,976; FY 05 $149,994; FY 06 $149,998

Abstract: This project implements, evaluates, and disseminates a life skills intervention designed to increase skills necessary for maintaining housing for 230 homeless adults with psychiatric disabilities to prevent their return to the streets, reinstitutionalization, hospitalization, or jail. These skills include room and self-care management, food management, financial management, and safe community participation. This three-year project is conducted in two housing programs: supervised emergency housing and single room occupancy housing with case management. The intervention was developed based on Empowerment Theory, the Transtheoretical Model of Change, Social Learning Theory using a skills training approach, and the Model of Human Occupation. The objective of this intervention is to increase the time an individual remains housed and decrease the evictions that occur secondary to his/her inability to perform the skills and behaviors necessary to maintain housing.
Field Initiated Projects (FIPs)
Illinois

Pathways in Living: Increasing Mental Health Consumers’ Community Integration Through Peer-Led Education

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Project Number: H133G050217
Start Date: November 01, 2005
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 05 $150,000; FY 06 $150,000

Abstract: This study examines the effectiveness of the Pathways in Living (PIL) peer-led education course, an eight-week curriculum that uses the Pathways to Recovery self-help workbook in increasing mental health consumers’ ability to identify and pursue the self-determined life goals that enable them to lead full lives within the community. In PIL, trained instructors who are mental health consumers teach other consumers how to identify their strengths, set and achieve goals, and expand their social networks. A total of 336 mental health consumers in Chicago participate in the project. A wait-list control group design is used in which 168 participants are randomly assigned to the PIL course (intervention group) and 168 participants are assigned to a nine-month course waiting list (control group). Study participants complete three in-person interviews that assess social support; emotional well-being; feelings of empowerment, hope, and self-stigma; and identification and pursuit of self-chosen goals. Intervention and control group participants are interviewed at the same three timepoints: one month prior to the start of the PIL course for the intervention group (study baseline for the control group), at the end of the PIL course (three months post-baseline for the control group); and six months after the course has ended (eight months post-baseline for the control group). Randomized regression models and content analyses are used to examine whether any significant differences on the above measures occur between the groups and are maintained over time. Study results provide important information on how peer-led programs increase community integration of mental health consumers.
Field Initiated Projects (FIPs)
Illinois

Promoting Health, Empowerment, and Community Integration Among People with HIV/AIDS: The Medication Adherence Program Study-II (MAPS-2)

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Project Number: H133G060224
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 06 $147,341

Abstract: The Center on Mental Health Services Research and Policy at the University of Illinois at Chicago (UIC) is collaborating with the Chicago Department of Public Health (CDPH) to assist people with HIV/AIDS live healthier, more productive lives. Clients at CDPH clinics are offered the opportunity to participate in an innovative program designed to improve adherence to medication and treatment regimens, promote physical health and wellness, cultivate consumer empowerment, and foster community integration. This program examines the effects of peer-delivered medication support services compared to services delivered by traditional medication specialists among people living with HIV/AIDS. The addition of the peer component builds upon the success of the UIC Medication Adherence Program Study-I (MAPS-1), a three-year, NIDRR-funded investigation of the impact of specialized medication adherence services provided to people living with HIV/AIDS.
Integrating Assertive Community Treatment (ACT) and Illness Management and Recovery (IMR) for Clients with Severe Mental Illness (SMI)

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Project Number: H133G030106
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 03 $149,458; FY 04 $149,559; FY 05 $149,900; FY 06 $0 (No-cost extension through 4/1/2007)

Abstract: This project targets the subgroup of 20 percent of consumers with severe mental illness identified with the most severe disabilities, that is, the subgroup most often excluded from rehabilitation services and mental health treatment. The project involves: (1) the systematic integration and high-fidelity implementation of two evidence-based practices for consumers with severe mental illness: assertive community treatment and illness management and recovery; (2) enhancing integration by employing a consumer specialist on treatment teams in a well-defined role; and (3) providing the first empirical test of a comprehensive package of techniques designed to help consumers learn to manage their own illness and foster recovery. Outcome measures include achievement of recovery goals, such as competitive employment and independent living, as well as indicators of illness management, such as prevention of hospitalization.
Combining Technologies to Maximize Outcomes: Telemedicine and Online Training Program for Parents of Children with Autism

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Schiefelbusch Institute for Life Span Studies
Juniper Gardens Children’s Project
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Principal Investigator: Linda S. Heitzman-Powell, PhD
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Project Number: H133G060238
Start Date: October 01, 2006
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $149,824

Abstract: For children with autism, early, intensive, and comprehensive intervention is of paramount importance. Unfortunately, the excessive cost associated with these interventions prevents many children from benefiting from them. While training parents to implement effective interventions can significantly reduce the cost of services, limitations imposed by geographical location or transportation prohibits many families from accessing appropriate training. The lack of access can have devastating effects on child-outcomes as well as the overall quality of family life. This project addresses this access and training deficit by developing a program that uses a Research-to-Practice Outreach Training model to teach parents of children with an autism spectrum disorder how to implement empirically-based interventions with their children. Drawing from the Participatory Action Research Model, consumer and administrative stake-holder feedback informs Phase I development through the use of a focus group to determine critical aspects of training content. Following the focus group, Phase II formative evaluation is conducted on a pilot version in which four families complete an online tutorial and its associated telemedicine session. The complete program is developed, guided by results from the formative evaluation. In Phase III, parents of children with autism use online tutorials to learn general information and concepts related to an intervention or treatment protocol followed by either an onsite or telemedicine clinic intervention session. During the intervention session parents practice the techniques discussed in that week’s online tutorials with their child while receiving guidance and immediate feedback from a PhD or Master’s level clinician. Program effectiveness is evaluated based on: level of parental knowledge and skill fluency, child level of disability (e.g. the ICF) and behavior, and reported family quality of life. After the initial evaluation, the sustainability of the intervention model will be assessed.
Field Initiated Projects (FIPs)
Massachusetts

Instrument to Measure Recovery-Promoting Competence among Providers Serving Spanish Speaking Mental Health Consumers

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Project Number: H133G060071
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $149,735

Abstract: The purpose of this project is to culturally adapt the Recovery Promoting Relationships Scale (RPRS) for use in four Spanish-speaking cultures (that is, individuals of Mexican, Puerto Rican, Cuban, and Central and Latin American descent). The resulting scale is an intervention blueprint designed to cut across specific disciplines and services, to specify the skills and strategies needed to promote recovery and to improve the expertise of providers serving Spanish-speaking consumers. This process helps address the critical need for recovery-oriented mental health services that are research based, culturally informed, and grounded in the perspectives of Latinos with psychiatric disabilities. Thus, the goals of this project are: (1) to identify and refine the recovery-oriented competencies required of providers serving mental health consumers of four Spanish speaking cultures; (2) to adapt the RPRS to be culturally relevant to mental health consumers of four Spanish-speaking cultures; (3) to pilot test the psychometric properties of the RPRS; (4) to test the clinical utility of the RPRS; and (5) to systematically develop implications for practice, training of practitioners, and policy, and broadly disseminate the results.
Field Initiated Projects (FIPs)  
Michigan

Driving after Stroke

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Project Number: H133G050134  
Start Date: November 01, 2005  
Length: 36 months  
NIDRR Officer: David W. Keer  
NIDRR Funding: FY 05 $149,392; FY 06 $148,005

Abstract: The purpose of the study is to evaluate driving after stroke. Cessation of driving is among the most functionally disabling consequences of stroke. Driving is integral to independence, community membership, and activities of daily living such as access to work, shopping, and health care. The primary target population is adults who drove a motor vehicle prior to the onset of a stroke. The study samples 150 pairs of survivors and their significant others, recruited at inpatient discharge and from the outpatient clinic of an urban rehabilitation hospital. Barriers to driving, driving status, and community integration are assessed at six months post stroke. A subsample of 90 survivors who seek to resume driving is also given a comprehensive driving evaluation. The objectives of this study are to identify the barriers to driving after stroke and the extent to which these barriers influence driving status (i.e., decision to drive), actual driving risk, and community integration. The project outcomes identify barriers to driving that are unwarranted or remediable and facilitate decision-making based on valid information, both of which are important to improving functional mobility and adaptation to changes associated with stroke. The long-term goal is the development of interventions that maximize independence and community integration, while protecting public and survivor safety.
Field Initiated Projects (FIPs)
Michigan

Work Environment and Quality of Life Outcomes: A Comparison of the Experiences of Formal and Informal Caregivers of Persons with Spinal Cord Injuries

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Project Number: H133G060267
Start Date: December 01, 2006
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $149,989

Abstract: For many persons with a spinal cord injury (SCI), assistance with activities of daily living and instrumental activities of daily living is crucial to their long-term survival, independence, and productivity. The goal of this qualitative investigation is to gain a better understanding of the work environments of SCI caregivers and the micro-processes at work that produce impacts on caregivers’ appraisals of burden, stress, physical health, and psychosocial well-being. The objective of the study is to document from a contextual life perspective, the linkages between the specific demands of caregiving and its health consequences. The study targets three groups of SCI caregivers: unpaid (family) caregivers, paid caregivers hired directly by the consumer, and paid employees of home health care agencies. The specific aims of the study are to: (1) conduct a comparative study of these three caregiver groups; (2) analyze this information with specific attention to the connections between aspects of the work environment, stress, physical health, and psychosocial well-being, and (3) disseminate this information to SCI consumers and their families, rehabilitation researchers, and clinicians, and to agencies charged with the responsibility of establishing health care policies.
Field Initiated Projects (FIPs)
Minnesota

National Training Institute for Frontline Supervisors (NTIFF)

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Project Number: H133G030058
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 03 $150,000; FY 04 $150,000; FY 05 $150,000; FY 06 $0 (No-Cost Extension through 9/30/2007)

Abstract: This project refines, tests, and delivers a national train-the-trainer and technical assistance model to assist community organizations that provide supports and services to persons with developmental and other severe disabilities to recruit, retain, and train direct support and frontline supervisor staff members. The model includes: (1) assisting organizations to assess their recruitment and retention challenges; (2) providing web-based training on recruitment and retention strategies; (3) conducting 2 intensive train the trainer institutes for 10-15 organization representatives; (4) supporting organizational representatives to provide training to 70-100 frontline supervisors; (5) providing on-site as well as remote technical assistance support and training to organizational representatives; (6) supporting technical assistance efforts by organizational representatives for frontline supervisors; (7) supporting ongoing follow-up measurement to assess the effectiveness of interventions and to guide future intervention work; and (8) developing project products and reports to share the project outcomes with policy makers, provider organizations, and other interested persons.
Field Initiated Projects (FIPs)
New York

A Longitudinal Study of Psychosocial Outcomes and Subjective Quality of Life Many Years After Traumatic Brain Injury

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Project Number: H133G030026
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 03 $149,999; FY 04 $149,999; FY 05 $149,999; FY 06 $0 (No-cost extension through 9/30/2007)

Abstract: This project is a longitudinal study of individuals with TBI who are on average 18 years post-injury. Between 1994 and 1997, the Research and Training Center on the Community Integration of Individuals with TBI at Mount Sinai School of Medicine conducted extensive quality of life and health interviews with over 800 individuals with TBI, spinal cord injury (SCI) and no disability (NO). The researchers for the current project will re-interview these same individuals eight to nine years after their initial interview, using most of the original measures. This project has three main objectives: (1) to document long-term psychosocial functioning post-TBI and its change over time; (2) to examine longitudinally subjective quality of life post-TBI as a primary indicator of adjustment to TBI; (3) to determine the predictors of change in subjective quality of life. The comparison groups provide a means of examining whether the changes observed in individuals with TBI reflect the unique experience of living with a TBI, the broader experience of living with a disability (comparison with the SCI group), or the general challenges we all face in conducting our daily lives (comparison with the NO group). Results of the study are disseminated through public conferences for both professionals and consumers, through publications in journals for consumers and professionals, and through the development of reports specifically targeted to individuals with TBI.
Field Initiated Projects (FIPs)
North Carolina

Participation in Family, School, and Community Activities as Pathways to Adult Integration Study

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Project Number: H133G050164
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 05 $149,980; FY 06 $149,980

Abstract: This project examines the factors that promote or impede successful inclusion of youth with disabilities in postsecondary education, employment, and social activities. The specific goals for this study are: (1) To determine the extent to which the frequency of participation in family, school, and community activities promotes the integration and inclusion of young adults with disabilities into the work force as well as educational and social opportunities; (2) to determine the extent to which the scope of participation in school, community, and family activities promotes the integration of young adults with disabilities into the work force as well as educational and social opportunities; (3) to disseminate research findings to the appropriate institutions, professional organizations, and parent groups in such a way that implications of practice are highlighted. Both quantitative and qualitative methodology are used as part of this research design to assess the influences of participation in everyday family, school, and community life during pre-school, elementary school, and secondary school, and the interactions between these sets of predictor variables that influence post-secondary adult outcomes.
Field Initiated Projects (FIPs)
Ohio

Teen Online Problem Solving for Pediatric Brain Injury

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Project Number: H133G050239
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 05 $149,629; FY 06 $148,735

Abstract: Traumatic brain injury (TBI) in adolescents is a significant stressor for both the teen and his or her family. Existing interventions are rare and distance and finances can restrict access to treatment. The current project addresses these needs by developing and piloting an innovative online intervention for adolescents with TBI (Teen Online Problem Solving: TOPS). The TOPS intervention is adapted, based on input from teens with TBI, from a recently developed online program for school-aged children with TBI and their families. The project tests the TOPS intervention in a randomized trial comparing the effects of usual care to TOPS on the following outcomes: (1) Adolescent problem-solving and communication skills; (2) adolescent emotional/behavioral adjustment; (3) parent burden and distress; and (4) parent-teen conflict. TOPS makes use of emerging technology to address the multifaceted needs of teens following TBI with the goal of improving the teen’s social and emotional functioning, thereby enabling him or her to better negotiate the complex transition to adulthood and independent functioning.
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: A. Cate Miller, PhD
NIDRR Funding: FY 06 $149,379

Abstract: Five million young children suffer from traumatic brain injury (TBI) each year resulting in new child behavior problems, parental distress, and family dysfunction. Recent studies provide evidence that online skill-building interventions can reduce caregiver distress and improve child adjustment following TBI. This project adapts online family problem solving for families of young children with TBI (Positive Parenting Plus or 3P) and compares it to an Internet resource comparison group (IRC) in a randomized clinical trial. Participants include families of 40 children, aged 3-8 years, who experienced a moderate to severe TBI 1-12 months prior to study participation. In 3P, 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 3P 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.
Resilience in Students with TBI: A Longitudinal Investigation

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Project Number: H133G030179
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 03 $149,950; FY 04 $149,999; FY 05 $149,966; FY 06 $0 (No-cost extension through 9/30/2007)

Abstract: The project extends the work of Project PSO, a project investigating post-secondary outcomes for young adults with TBI, tracking this sample into their early 20s, a time when the subjects are making significant life adjustments in the areas of post-secondary education, employment, independent living, and interpersonal relationships. The Project’s quantitative and qualitative data reveal that some of the 92 subjects appear to be resilient, achieving successful post-injury adjustments, while others are experiencing difficulty, becoming dependent on family members for instrumental and social support. The data suggest that access to specific types of educational interventions and support services account for these differences in adjustment. In addition, this project investigates factors that facilitate and impede delivery of services and support to young adults with TBI from key agencies, including VR, Social Security Administration, and state social service agencies serving individuals with disabilities.
Field Initiated Projects (FIPs)
South Carolina

Stability of Vocational Interests Two Years after Spinal Cord Injury: Relationship with Employment, Participation, and Subjective Well-Being

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Project Number: H133G030151
Start Date: October 01, 2003
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 03 $149,944; FY 04 $149,913; FY 05 $149,352; FY 06 $0 (No-cost extension through 09/30/2007)

Abstract: The primary objectives of this study are to identify how much interests change in the first two years after SCI onset, factors related to change, and the extent to which interest type and interest change are associated with employment, participation, and subjective well-being. Return to gainful employment has been widely endorsed as fundamental rehabilitation goal after the onset of a SCI, yet employment rates for people with SCI rarely exceed 30 percent. This high unemployment rate is generally attributed to the dramatic impact of SCI on ability to perform job functions requiring physical strength and dexterity. However, successful employment is related to both the extent to which the individual is able to perform the needed job functions and the degree to which the job environment and job tasks are intrinsically interesting to the individual. Unfortunately, research has shown that SCI often occurs selectively to people whose interests are in physically challenging activities that may no longer possible given the physical limitations imposed by SCI. The impact of no longer being able to perform intrinsically rewarding activities not only poses a threat to successful return to work, but also to overall participation in society and subjective well-being. This study lays a foundation for intervention strategies that maximize opportunities for participation and help people with SCI to lead fulfilling and rewarding lives by helping rehabilitation professionals to better understand the relationships of both interest type and interest stability with employment, participation, and well-being.
Field Initiated Projects (FIPs)
Texas

Outpatient Social Skills Training For Distressed Adolescent Burn Survivors

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Project Number: H133G050079
Start Date: October 01, 2005
Length: 39 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 05 $150,000; FY 06 $150,000

Abstract: Previous studies suggest that a significant number of survivors of pediatric burn injuries have a diminished quality of life as young adults. Based on social learning theory and supported by empirical data, social skills deficits have been identified as a major impediment to maximum psychosocial adjustment for many who have survived serious burn injury; this deficit is a particular handicap as the child progresses through adolescence. A pilot study suggests that a four-day, intensive, residential social skills training program was of benefit to troubled teen burn survivors even one year after the training program was completed. The residential format, however, is expensive and impractical. This project (1) cross-validates previous findings that a social skills training program is beneficial, i.e. results in improved social competence and/or diminished behavioral problems, at one-year post-intervention; and (2) tests the hypothesis that beneficial effects can be maintained or amplified by modifying the format of the training to a schedule that more closely resembles the usual outpatient clinical schedule. The goal of this project is to develop and validate an efficient and relatively inexpensive intervention that can be utilized not only by burn-care teams but by health-care professionals in other specialties that are concerned with assisting adolescents who are stigmatized by marred appearance or functional impairment related to a medical condition.
Field Initiated Projects (FIPs)
Texas

Caregiver and Environmental Influences on Outcome for Infants and Preschoolers with Traumatic Brain Injury

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Project Number: H133G040279
Start Date: November 01, 2004
Length: 36 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 04 $149,225; FY 05 $149,970; FY 06 $149,235

Abstract: This project is guided by a transactional model of development which postulates that a child’s eventual outcome is a result of transactions between the child’s biological risk factors and a continuum of environmental conditions. Project 1 assesses predictors of outcome in infants and preschoolers with moderate or severe TBI who are 6 to 47 months of age in relation to socio-demographically matched comparison children. Child behavior, caregiver stress, and family functioning are expected to have a direct impact on outcome from TBI; however, the effect of brain injury on developmental outcomes is also expected to be partially mediated through the influence of these factors on the caregiver-child interaction. Project 2 pilots a randomized, controlled, home-based, caregiver-focused intervention for infants and preschoolers with TBI that enhances caregiver skills for stimulating cognitive development.
Disability Demographics

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.

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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
NIDRR Funding: FY 04 $700,000; FY 05 $700,000; FY 06 $700,000

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; (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 and 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 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)
Kansas

Rehabilitation Research and Training Center on Policies Affecting Families of Children with Disabilities

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Project Number: H133B031133
Start Date: November 01, 2003
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 03 $749,951; FY 04 $749,960; FY 05 $749,997; FY 06 $749,899

Abstract: This center conducts eight research projects on the effects of the policies of governments, systems, networks, and agencies on the family quality of life and community integration (FQOL/FCI) of families who have children with developmental disabilities and emotional-behavioral disabilities or both. Researchers identify four target populations: families, providers, policy-leaders, and networks (all at the federal, state, and local levels). Three policy challenges are prisms through which the effects of policy on families can be understood: early intervention, alternative schools, and consumer control of funding. For each policy challenge, researchers inquire into whether the applicable federal and state policies and practices, and the applicable network policies, advance FQOL/FCI; whether the policies across education, social services, and health care are mutually consistent with each other and advance FQOL/FCI; and whether the practices of agencies in those systems advance FQOL/FCI. The center’s analytical framework holds that the core concepts shape policies, policies shape services, policies and services should be coordinated and delivered through partnerships. Enhanced FQOL/FCI occurs when there is coherence among core concepts, coordinated policies delivered through partnerships, and coordinated services delivered through partnerships; and influencing factors must invariably be taken into account.
Rehabilitation Research and Training Centers (RRTCs)
New York

Rehabilitation Research and Training Center on Demographics and Statistics

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Project Number: H133B031111
Start Date: December 01, 2003
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 03 $750,000; FY 04 $750,000; FY 05 $750,000; FY 06 $750,000
Abstract: The RRTC on Demographics and Statistics (Cornell StatsRRTC) bridges the divide between the sources of disability data and the users of disability statistics. The project conducts research exploring the reliability of existing data sources and collection methods, and studies the potential to improve current and future data collection efforts. In addition, the project utilizes existing data sources to provide a comprehensive and reliable set of statistics, and increase access to and understanding of how statistics can be used effectively to support decision making. Cornell StatsRRTC works with key organizations to determine their needs and helps them maximize the use of disability statistics in their ongoing efforts to improve the lives of people with disabilities and their families. As members of the Cornell StatsRRTC, the American Association of People with Disabilities, the Center for an Accessible Society, and InfoUse provide vital expertise and resources needed to reach the users of disability data and statistics. The Cornell StatsRRTC includes researchers from Cornell University, Mathematica Policy Research, the Urban Institute, and the Institute for Matching People and Technology, all of which bring extensive expertise in working with and creating sources of disability data.
Disability and Rehabilitation Research Projects
Massachusetts

Emergent Disability, Systems Change, and Employment of People with Disabilities

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Project Number: H133A021503
Start Date: December 01, 2002
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 02 $300,000; FY 03 $300,000; FY 04 $299,640; FY 05 $299,640; FY 06 $299,640

Abstract: This project examines state service systems to document the impact of federal policies and practices on systems change and how such changes affect people with disabilities. Research activities include: (1) analysis of national, state, and local data collection systems and actual employment outcomes for people with disabilities; (2) documentation of data sets being used by state agencies to measure effectiveness and how these could be used to examine outcomes for people with disabilities; and (3) examination of how people with disabilities fare within the existing system and challenges they may face through direct consumer research. The goals of the project are: (1) to develop a clear description and presentation of how federal policies impact systems change efforts; (2) to identify how these policies and practices affect the lives of people with disabilities; (3) to identify procedures for a more integrated approach to gathering data that better explains the consumer outcomes of these services; and (4) to document how people with disabilities progress within the service system.
Field Initiated Projects (FIPs)
California

A Study of Developmental Disability Service Utilization and Expenditures in California

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Project Number: H133G050358
Start Date: October 01, 2005
Length: 24 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 05 $83,482; FY 06 $67,427

Abstract: This project conducts a two-year secondary data analysis of over 200,000 individuals with developmental disability (DD) living at home and in the community who are actively served by the California regional center program. The study examines formal service utilization and expenditures for services for individuals with DD. The study focuses on issues of equity in access to long term care services including personal care services for individuals with DD. This analysis builds upon prior national studies of personal assistance services (PAS) and studies of the predictors of long term care utilization and expenditures. Researchers describe the number and types of individuals with DD living at home or in the community in California in terms of their predisposing socio-demographic characteristics (e.g. age, gender, race/ethnicity, language), enabling factors (e.g. living arrangement, income, Medicaid eligibility, and location), and need factors (e.g. physical abilities, cognitive functioning, and other conditions). The project examines the amount and type of services and the costs of services (including residential care, group homes, day care, PAS, and other services). Multivariate analyses are used to test hypotheses that factors other than needs are major predictors of service use and costs of formal services for individuals with DD.
Field Initiated Projects (FIPs)

New York

Using the U.S. Equal Employment Opportunity Commission (EEOC) Employment Discrimination Charge Data System for Research and Dissemination Purposes

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Project Number: H133G040265
Start Date: October 01, 2004
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 04 $150,000; FY 05 $150,000; FY 06 $150,000
Abstract: Using data from the Equal Employment Opportunity Commission (EEOC) Charge Data System (CDS), this project analyzes trends in employment discrimination charges related to the ADA and other laws. The CDS collects data on employment discrimination charges covered under Title I of the ADA, as well as data on charges related to other laws. It contains information on (a) the demographic characteristics of charging parties, such as gender, racial and ethnic status, age, location, and type of disability (e.g., back impairment, depression); (b) type of discriminatory behavior, such as refusal to hire, failure to provide reasonable accommodation, unfair discharge, harassment; and (c) charge outcomes, such as withdrawal with benefits, settlements, and other such outcomes. The project uses these data to explore trends over time and across the states, and investigate whether these trends are related to changes in the composition of the population with disabilities and changes in labor market conditions. Using regression analysis, it explores the relationship of the ADA-related charge rates to state-level economic conditions, government program participation by people with disabilities, and other state-level characteristics. It also examines the changes in the composition of charges over time with respect to the characteristics of charging party, the size and industry of the employer, the type of alleged discriminatory treatment, and the EEOC ratings (A, B, C); it looks for the potential impact of Supreme Court decisions within changes in these compositional changes. To achieve a better understanding of patterns in ADA-related charges, researchers seek input from and work with the EEOC and selected disability advocacy organizations, such as the law firm of Powers, Pyles, Sutter, and Verville; the American Association of Persons with Disabilities; and representatives of the National Disability Rights Network.
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.

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Disability and Rehabilitation Research Projects
Alabama

National Spinal Cord Injury Statistical Center (NSCISC)

University of Alabama/Birmingham
SRC 515; 1717 Sixth Avenue, South
Birmingham, AL 35249-7330
nscisc@uab.edu
www.spinalcord.uab.edu/NSCISC

Principal Investigator: Yuying Chen, MD, PhD 205/934-3320
Public Contact: Vicki Farris 205/934-5049; Fax: 205/934-2709

Project Number: H133A060039
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 06 $625,000; FY 07 $625,000

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 and expands its current activities and implements 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 will significantly improve the capability to manage new data module projects, increase cost-efficiency, improve quality control, and enhance 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.
National Resource Center for Parents with Disabilities

Through the Looking Glass
2198 Sixth Street, Suite 100
Berkeley, CA 94710-2204
tlg@lookingglass.org
www.lookingglass.org

Principal Investigator: Paul Preston, PhD
Public Contact: 510/848-1112 (V); 800/644-2666 (V); 800/804-1616 (TTY); Fax: 510/848-4445

Project Number: H133A040001
Start Date: January 01, 2004
Length: 36 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 04 $500,000; FY 05 $500,000; FY 06 $500,000

Abstract: The National Resource Center for Parents with Disabilities focuses on the 10.9 percent of U.S. families with children in which one or both parents have a disability—nearly 9 million parents. The Center provides: (1) accessible and disability-appropriate information regarding parenting with a disability to parents, potential parents, disability advocates, and legal, medical, and social service providers; (2) training to parents with disabilities, potential parents, and service providers; (3) technical assistance that increases informed practice and informed decisions; (4) program consultation that increases local and regional services that are accessible and disability-appropriate. To accomplish these goals, project researchers: (1) consolidate and disseminate information and resources, (2) synthesize and disseminate materials from other agencies and organizations, (3) develop and disseminate new materials tailored to address the specific needs of parenting with disabilities and service providers, (4) expand the national availability of training and technical assistance to parents with disabilities and service providers, and (5) develop curricula to train future service providers. Parenting areas designated as highest priority are: custody, pregnancy and birthing, adoption, adaptive parenting equipment, and general parenting information. The project is staffed by nationally recognized experts regarding parents with disabilities, the majority of whom are parents with disabilities or family members of parents with disabilities.
Innovative Knowledge Dissemination and Utilization for Disability and Professional Organizations and Stakeholders

Boston University
Center for Psychiatric Rehabilitation
940 Commonwealth Avenue West
Boston, MA 02215-1203
psyrehab@bu.edu

Principal Investigator: Marianne Farkas, ScD
Public Contact: 617/353-3549; Fax: 617/353-7700

Project Number: H133A050006
Start Date: October 01, 2005
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 05 $498,878; FY 06 $493,698; FY 07 $499,966

Abstract: This project is working collaboratively with the NIDRR, professional and consumer organizations, and stakeholders to develop, test, and apply a process of research standards development, implementation, and related information dissemination strategies that allows end-users in the rehabilitation field to make informed choices based on the perceived utility of the research available, and in doing so, promote utilization of rehabilitation research. The project uses well-developed standards to determine which rehabilitation research results are of sufficient rigor to be worthy of dissemination. Thus establishing an ongoing, scientific, easily accessible, central resource to help professionals utilize what works in the disability field. The project has six specific goals: (1) Producing quality standards for rating rehabilitation research rigor and meaning. A broad range of experts and various stakeholders participate in consensus building regarding adapting existing standards for rating research rigor, and create standards for meaning (perceived relevance). In this way, information disseminated will not only be assessed as to its scientific rigor but also with respect to its relevance and applicability to various end-users, thus promoting utilization of the research. (2) Project staff, along with NIDRR staff, professional and constituent organizations, and other Knowledge Translation projects assist in developing standard topic selection criteria and in selecting topical areas for information products. (3) Producing relevant information products describing the quality and implications of rehabilitation research studies based on the developed standards. Constituent organizations participate in developing dissemination plans to translate research syntheses in the identified topical areas into information products relevant for appropriate constituencies. (4) Creating and testing a prototype interactive website, The Right to Know Clearinghouse, to implement innovative dissemination strategies for key groups. (5) Evaluating the output, perceived utility, and outcomes of the Knowledge Translation project using the NIDRR logic model. Evaluated outcomes include an increase in awareness of research among constituency groups, an increase in understanding of research rigor and meaning among those groups, and an increase in the use of research information by end-users. (6) Disseminating the project’s findings to stakeholders.
Disability and Rehabilitation Research Projects
New York

Center for International Rehabilitation Research Information and Exchange (CIRRIE-2)

State University of New York (SUNY) at Buffalo
Center for Assistive Technology
515 Kimball Tower
Buffalo, NY 14214
ub-cirrie@buffalo.edu
cirrie.buffalo.edu

Principal Investigator: John Stone, PhD 716/829-3141, ext. 125
Public Contact: Marcia E. Daumen 716/829-3900, ext. 146; Fax: 716/829-2211

Project Number: H133A050008
Start Date: November 01, 2005
Length: 60 months
NIDRR Officer: Eva M. Gavillan, EdD
NIDRR Funding: FY 05 $500,000; FY 06 $500,000; FY 07 $500,000

Abstract: The Center for International Research Information and Exchange (CIRRIE-2) offers a comprehensive approach to address the needs of researchers, practitioners, and consumers for research-based information from international sources. CIRRIE-2 objectives include: Expanding the existing Database of International Rehabilitation Research; developing an online, multi-lingual, international encyclopedia of rehabilitation in English, Spanish, and French in collaboration with the Quebec Institute for Physical Rehabilitation; sponsoring an international conference and workshops on the International Classification of Functioning, Disability, and Health (ICF); creating a Community of Practice on the ICF; and cross mapping ICF terms to the thesaurus that is used to search both CIRRIE and REHABDATA databases. CIRRIE-2 sponsors workshops on the ICF in cooperation with the American Psychological Association and the WHO North American Collaborating Center (NACC), and plans an international conference on the ICF in Year 2, in collaboration with the NACC. Additionally, CIRRIE develops new pre-service initiatives in the area of cultural competence for disability service providers, including: Developing a textbook and two new monographs on cultural competence for disability service providers; and conducting an international conference on Providing Culturally Competent Disability Services in collaboration with Toronto-based Joint Centre of Excellence on Research and Immigration and Settlement. CIRRIE-2 supports collaborative activities between the U.S. and other countries by conducting four types of international exchange programs: (1) short-term exchanges of individuals, (2) institutional linkage exchanges, (3) a program for Minority Serving Institutions, and (4) a program for information gathering for dissemination to US audiences.
Disability and Rehabilitation Research Projects
Texas

Research Utilization Support and Help (RUSH) Project

Southwest Educational Development Laboratory
211 East Seventh Street, Suite 448
Austin, TX 78701-3253
jwestbro@sedl.org
www.researchutilization.org

Principal Investigator: John Westbrook, PhD
Public Contact: 800/761-7874 (V/TTY); Fax: 512/476-2286

Project Number: H133A031402
Start Date: June 01, 2003
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 03 $350,000; FY 04 $350,000; FY 05 $350,000; FY 06 $350,000; FY 07 $350,000

Abstract: The RUSH project develops and tests models for increasing the effective use of NIDRR research results. The RUSH Project intends to assess utilization successes in terms of benefits produced for intended user audiences including: people with disabilities and their families, disability researchers, and disability service providers, among others. The goal is to expand awareness, strategies, and evaluation of knowledge utilization outcomes among NIDRR-supported researchers in order to increase access and use of research results by those who can benefit the most from them. The objectives for the RUSH Project are: (1) to assess the use of and obstacles to the dissemination/utilization of NIDRR-supported disability research by a wide range of potential target audiences; (2) to develop a variety of strategies and approaches designed to accommodate differing topics of disability research information and diverse target audiences; (3) to demonstrate a variety of new strategies and approaches to improve/achieve utilization outcomes of disability research findings; (4) to disseminate information about knowledge utilization models and their associated effectiveness by topic, target audience, and level of knowledge transfer needed in order to increase the use of NIDRR grantees’ research outcomes; (5) to provide new and current NIDRR researchers with information they can use to strengthen their dissemination and utilization approaches; and (6) to provide technical assistance to NIDRR researchers to build understanding, skills, and resources in developing, implementing, and evaluating knowledge utilization models within NIDRR project designs.
Disability and Rehabilitation Research Projects
Texas

National Center for the Dissemination of Disability Research (NCDDR)

Southwest Educational Development Laboratory
211 East Seventh Street, Suite 400
Austin, TX 78701-3281
lharris@sedl.org
www.ncddr.org

Principal Investigator: John Westbrook, PhD
Public Contact: Lin Harris, Information Specialist 800/266-1832 (V/TTY); Fax: 512/476-2286

Project Number: H133A060028
Start Date: January 01, 2006
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 06 $750,000; FY 07 $750,000

Abstract: The goal of the National Center for the Dissemination of Disability Research (NCDDR) is to promote the utilization of research results developed through NIDRR grants/contracts. Major areas of work of the NCDDR include: (1) Research designed to collect information that assists in identifying the needs and most likely strategies that assist in matching dissemination practices with intended user audiences. Activities include conducting annual surveys, focus groups, surveys, and annual reporting of state-of-the-art information about NIDRR grantees’ dissemination successes. (2) Demonstration conducted to determine the effectiveness of new strategies and approaches in achieving intended dissemination and utilization outcomes. Activities include developing and using innovative web-based mechanisms, increasing common portal access to substantive English and Spanish language resources of grantees, and developing outreach strategies for under-represented audiences. (3) Dissemination and Utilization implemented not to support the simple distribution of materials and other resources but rather the use of research outcomes in meaningful ways by those that can most benefit from their use. Activities include production of print and web-based informational products, networking of grantees to maximize outreach impact, and developing networks with a variety of research stakeholder groups for information and strategy exchanges. (4) Technical Assistance provided to NIDRR grantees to build understanding, skills, and resources related to the dissemination and utilization of their disability research outcomes. Activities include providing onsite and offsite assistance in planning effective dissemination efforts, providing direct assistance to grantees with targeted dissemination efforts, and assisting in designing evaluation strategies to measure dissemination and utilization outcomes.
Disability and Rehabilitation Research Projects
Virginia

Disability and Business Technical Assistance Centers: Coordination, Outreach, and Research Center

Virginia Commonwealth University
Department of Rehabilitation Counseling
1112 East Clay Street; P.O. Box 980330
Richmond, VA 23298-0330
btmcmaho@vcu.edu
wwwadata.org

Principal Investigator: Brian T. McMahon, PhD
Public Contact: 804/827-0917; Fax: 804/828-1321

Project Number: H133A060087
Start Date: January 01, 2007
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 06 $849,957; FY 07 $849,968

Abstract: This coordination, outreach, and research center (CORC) expands and enhances the activities of the regional system of Disability and Business Technical Assistance Centers (DBTACs), guided by the principles of evidence-based practice and knowledge translation, with a dual emphasis on communities of practice and demand-side job placement. The CORC objectives are to: (1) improve public access to ADA information by creating a definitive ADA web site, which includes a compendium of DBTAC materials, databases, publications, products, tools, and activities; (2) create a CORC Research Review Board to coordinate, support, and review new evidence-based products and publications, including original CORC research, and assess their effectiveness and impact on policy and practice; (3) increase the research capacity of the regional DBTACs network to both conduct and utilize quality research by modeling such behavior and by providing direct and meaningful consultation to regional DBTACs to facilitate their success; (4) coordinate dissemination of regional DBTAC and CORC publications and products in concert with appropriate NIDRR research and dissemination centers; (5) translate DBTAC evidence reports, publications, and products into practice guidelines, quality improvement products, and technical assistance tools; and (6) host three planning conferences with regional DBTACs in Project Years I, III, and V, and three research conferences in Project Years III, IV, and V in order to demonstrate the added value of evidence-based practice in the DBTAC network. CORC activities include original research studies, training activities, dissemination projects, technical assistance projects, and program evaluation.
Disability and Rehabilitation Research Projects
Washington

Model Systems Knowledge Translation Center (MSKTC)

University of Washington
Center for Human Development and Disability; Center for Technology and Disability Studies
1959 NE Pacific Street, HSB BB-919; Box 356490
Seattle, WA 98195
msktc@u.washington.edu
msktc.washington.edu

Principal Investigator: Kurt Johnson, PhD
Public Contact: 206/543-3677; Fax: 206/543-4779

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

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.
Field Initiated Projects (FIPs)
Massachusetts

EVIDAAC: A Database of Appraised Evidence in Augmentative and Alternative Communication

Northeastern University
Department of Speech, Language, Audiology, and Pathology
151B Forsyth
Boston, MA 02115-5000
R.Schlosser@neu.edu

Principal Investigator: Ralf W. Schlosser, PhD
Public Contact: 617/373-3785; Fax: 617/373-8756

Project Number: H133G070150
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Ruth Brannon
NIDRR Funding: FY 07 $195,525

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 EBP. 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.
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-05-CO-0007
Start Date: March 01, 2005
Length: 36 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 04 $680,000; FY 05 $792,000; FY 06 $809,003
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 by telephone, mail, electronic communications, or in person. NARIC also prepares and publishes the annual NIDRR Program Directory, available in database format from NARIC’s web site.
Utilization Projects
Maryland

ABLEDATA

ORC Macro
8630 Fenton Street, Suite 930
Silver Spring, MD 20910
abledata@orcmacro.com
www.abledata.com

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-02-CO-0038
Start Date: October 01, 2002
Length: 66 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 02 $516,829; FY 03 $589,408; FY 04 $635,313; FY 05 $635,313; FY 06 $687,885; FY 07 $350,963
Other Funding: FY 06 $40,000 (NIDRR Supplemental)
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 the 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.
ADA Technical Assistance Programs

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.

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**New England Disability and Business Technical Assistance Center — Region I**

Adaptive Environments Center, Inc.
200 Portland Street, First Floor
Boston, MA 02114
ADAinfo@NewEnglandADA.org
adaptiveenvironments.org/neaDA/site/home

**Principal Investigator:** Oce Harrison, EdD, Project Director 617/695-1225, ext. 227  
**Public Contact:** 800/949-4232 (V/TTY in CT, ME, MA, NH, RI, and VT); 617/695-1225 (V/TTY);  
Fax: 617/482-8099

**Project Number:** H133A060092  
**Start Date:** October 01, 2006  
**Length:** 60 months  
**NIDRR Officer:** Shelley Reeves  
**NIDRR Funding:** FY 06 $1,026,116

**Abstract:** The New England DBTAC provides technical assistance, training, and information dissemination for Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. This DBTAC continues these core services that are the bedrock of voluntary ADA compliance but also restructures the program to be more responsive and rigorous with an expectation of improving employment outcomes for people with disabilities. A set of partnerships and collaborations, led by the Center for Labor Market Studies at Northeastern University, conducts evidence-based research with a set of additional collaborating organizations to implement comprehensive intervention and descriptive research strategies. The target populations for this DBTAC are students with disabilities and their diverse support services at institutions of higher education, and employers in demand-driven, high growth industries in New England. Goals for this DBTAC are to: improve understanding of rights and responsibilities under the ADA; identify innovative approaches and tested solutions that increase employment; produce and disseminate a “Guide to New England Jobs” for individuals with disabilities; publish results of findings in refereed journals; and utilize networks of new collaborators to disseminate information, materials, and research findings.
Disability and Business Technical Assistance Center — Northeast

Cornell University
Employment and Disability Institute
School of Industrial and Labor Relations
201 ILR Extension Building
Ithaca, NY 14853-3901
northeastada@cornell.edu
www.northeastada.org

Principal Investigator: S. Antonio Ruiz-Quintanilla, Project Director 607/255-2132
Public Contact: 800/949-4232 (V/TTY, in NJ, NY, PR, and VI); 607/255-6686 (V/TTY); Fax: 607/255-2763

Project Number: H133A060088
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $1,105,000

Abstract: The Disability and Business Technical Assistance Center - Northeast (DBTAC-Northeast) serves Region II to ensure the full implementation of the ADA through its core activities: technical assistance, training, information dissemination, and research. The DBTAC-Northeast target audiences include individuals with disabilities and their caregivers, employers, businesses, state and local government entities, and educational institutions in Federal Region II (New York, New Jersey, Puerto Rico, and the US Virgin Islands). Information dissemination activities include a comprehensive website, a newsletter, technical bulletins, and materials dissemination through networks and regional partners. Technical assistance activities focus on responding to requests for information received via an 800 phone line, submitted via the website, and received through email. Training activities are comprehensive in both approach and delivery, designed to meet the needs of educational organizations, employers, advocacy organizations, businesses, Title II organizations, individuals with disabilities, caregivers, and disability service organizations. Topics include advanced ADA issues related to employment, physical and programmatic access, state and federal laws and codes and relevant ADA court decisions, and accessible technology. Training is offered through a variety of open-enrollment programs at the state and local levels as well as provided on-site. Lastly, the DBTAC-Northeast team conducts targeted, rigorous research and evaluation activities designed to inform and develop innovative and effective approaches addressing critical disability questions to help ensure that services and interventions delivered by the DBTAC-Northeast are effective and relevant to the needs of the individuals and communities it serves.
Mid-Atlantic Disability Business Technical Assistance Center —
Region III

TransCen, Inc.
451 Hungerford Drive, Suite 607
Rockville, MD 20850-4151
adinfor@transcen.org
www.adainfo.org

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

Project Number: H133D010212
Start Date: October 01, 2001
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 01 $1,099,998; FY 02 $1,099,998; FY 03 $1,099,998; FY 04 $1,099,998; FY 05 $1,099,998; FY 06 $0 (No-cost extension through 09/30/2007).
Abstract: The Mid-Atlantic DBTAC provides technical assistance, training, and information dissemination for Delaware, the District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia. Activities are organized under two major goals: (1) provide technical assistance, training, and information dissemination about the ADA; and (2) provide technical assistance, training, and information dissemination about accessible education-based IT. Individual activities to meet these goals and project objectives are designed to build capacity among State and local agencies, including centers for independent living, so that the Center’s impact and effectiveness is maximized. Approximately 20,000 individuals and organizations are directly impacted through project activities each year.
ADA Technical Assistance Projects
Region III - DC, DE, MD, PA, VA, and WV

**DBTAC:Mid-Atlantic ADA Center**

TransCen, Inc.
451 Hungerford Drive, Suite 700
Rockville, MD 20850-4151
adininfo@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:** H133A060085
**Start Date:** October 01, 2006
**Length:** 60 months
**NIDRR Officer:** Shelley Reeves
**NIDRR Funding:** FY 06 $1,098,929

**Abstract:** The DBTAC:Mid-Atlantic ADA Center provides technical assistance, training, and information dissemination for Delaware, the District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia. The major goals of this DBTAC are to: improve the understanding by individuals and entities of their rights and responsibilities under the ADA; build the capacity of local and state entities to provide technical assistance and training on the ADA and related topics; improve employment outcomes of people with disabilities; and increase access by people with disabilities to lodging and other services from, as well as employment opportunities within, the high growth hospitality industry. There are four major areas of activity: (1) training, technical assistance, and dissemination to general ADA constituencies on all titles of the Act; (2) training and technical assistance to individual statewide coalitions to increase the capacity of other organizations to provide locally focused technical assistance on 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 ADA, especially in the high growth hospitality industry; and (4) research on organizational and individual factors that affect decisions to provide reasonable accommodations and the resulting employment outcomes.
Southeast Disability Business Technical Assistance Center — Region IV

Syracuse University
Burton Blatt Institute
900 South Crouse Avenue; Crouse-Hinds Hall, Suite 300
Syracuse, NY 13244-2130
sedbtacproject@law.syr.edu
www.sedbtac.org

Principal Investigator: Peter Blanck, PhD, JD; Shelley Kaplan; 315/443-9703 (Blanck); 404/385-0636 (Kaplan)
Public Contact: Shelley Kaplan, Project Director 800/949-4232 (V/TTY, in AL, FL, GA, KY, MS, NC, SC, and TN); 404/385-0636 (V/TTY); Fax: 404/385-0641

Project Number: H133A060094
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $1,105,000

Abstract: The Southeast DBTAC provides technical assistance, training, and information dissemination for Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. Through an ongoing systematic assessment, the SE DBTAC continues to meet 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 SE DBTAC has developed an innovative research plan to extend 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 SE DBTAC is lead by a consortium that includes four nonprofit institutions: the Burton Blatt Institute of Syracuse University, Center for Assistive Technology and Environmental Access at Georgia Institute of Technology, Living Independence for Everyone of Jackson, Mississippi, and Partnerships in Assistive Technology of North Carolina.
ADA Technical Assistance Projects
Region V - IL, IN, MI, MN, OH, and WI

DBTAC: Great Lakes ADA Center

University of Illinois at Chicago
Department of Disability and Human Development
1640 West Roosevelt Road, Room 405
Chicago, IL 60608-6904
gldbtac@uic.edu
www.adagreatlakes.org

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

Project Number: H133A060097
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $1,105,000

Abstract: The University of Illinois at Chicago, Department on Disability and Human Development operates the Disability and Business Technical Assistance Center (DBTAC) for the Great Lakes Region to promote awareness of the ADA to targeted audiences through provision of technical assistance, training, and material dissemination regarding the ADA. In addition, the Center engages in rigorous research-related activities that contribute to a research agenda focused on but not limited to (1) the employment of people with disabilities, and (2) the impact that individual knowledge and experience with the utilization of technology in postsecondary education has on the employment outcomes of individuals with disabilities as they transition from postsecondary education to employment. The Great Lakes DBTAC provides timely, responsive, and proactive services utilizing a comprehensive service delivery model. The technical assistance, training, and information needs of the individual, employers, specifically those in high growth industries, business, government, educational entities, and disabled veterans employment programs are a part of ongoing needs assessment, and programs and activities are tailored accordingly. The Center tracks emerging issues which are of interest to its target audiences and develops strategies to address their informational and technical assistance needs. Strategies include: (1) operation of a toll-free number for responding to questions or providing referral; (2) enhancement of the Center’s existing network of individuals and organizations who can provide on-site consultation, technical assistance, and training as needed; (3) training events and activities at the local, state, and regional level focused on raising awareness of the ADA and disseminating the findings which result from the Center and its collaborators’ research-related activities; (4) identification and dissemination of best practices related to the recruitment, hiring, and retention of qualified individuals with disabilities by employers and employment training programs; and (5) utilization of technology to promote the exchange of information including a web site, listservs, e-newsletters, multifaceted distance learning strategies and techniques, self-paced learning, and web-based assessment tools. Through partnerships and collaboration at the local, state, regional, and national levels the Center maximizes resources to ensure that a high quality and quantity of activity occurs. Collaborators include but are not limited to the network of DBTACs, relevant NIDRR-funded projects, State Technology Act grantees, and Department of Labor
grantees (WIA, Small Business Development Centers, JAN, etc.), as well as employer and business organizations such as the Business Leadership Network, Society of Human Resource Management, State Chambers of Commerce, and National Federation of Independent Business chapters. In addition to these groups, the Center continues to act as a catalyst for activities that take place at the local and state level through collaboration between the business, government, and disability communities to promote awareness and voluntary compliance with the ADA. At the regional level, the Center relies heavily on the guidance of State Steering Committees and incorporates new structures to inform and direct the Center’s activities including the newly established Regional Business Advisory Committee.
ADA Technical Assistance Projects
Region VI - AR, LA, NM, OK, and TX

Southwest Disability and Business Technical Assistance Center
(Southwest DBTAC) — Region VI

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

Principal Investigator: Wendy Wilkinson, Project Director
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Project Number: H133A060091
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $1,104,007

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. SEDBTAC’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 VII - IA, KS, MO, and NE

Great Plains ADA and Information Technology Center — Region VII

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

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

Project Number: H133A060089
Start Date: October 01, 2006
Length: 5 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $458,330

Abstract: The Great Plains DBTAC provides technical assistance, training, and information dissemination for Iowa, Kansas, Missouri, and Nebraska. The Center provides the core services of material dissemination, technical assistance and training, awareness to its target populations of people with disabilities, disability organizations, policy makers, public rehabilitation providers, employers, businesses, state and local governments, educators, design professionals, legal professionals, and the media. In addition, the Center includes a research model that can measure changes in employment, commerce, and community in terms of accessibility, receptivity, and active participation. Research conducted by the Washington University School of Medicine focuses on community participation and employment. The University of Kansas continually reviews emerging literature and research findings to improve core services and research activities. Paraquad, a Center for Independent Living, facilitates input from consumers at all stages of service provision and research, and represents the perspective of the intended beneficiaries of the project, people with disabilities. Additional quality assurance of the research and core services is provided by an Advisory Committee representing all parts of the region and professional disciplines involved in this project.
Rocky Mountain Disability Business Technical Assistance Center — Region VIII

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

Principal Investigator: Robert H. Gattis, Jr., Project Director 719/444-0252
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: H133D010204
Start Date: October 01, 2001
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 01 $849,716; FY 02 $849,157; FY 03 $849,576; FY 04 $849,993; FY 05 $849,942; FY 06 $0 (No-cost extension through 1/31/2007)

Abstract: The Rocky Mountain DBTAC provides technical assistance, training, and information dissemination for Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming. The project builds the capacity for reaching every individual, business, public entity, and educational institution with training, materials dissemination, and technical assistance on the ADA and educational-based IT accessibility. A comprehensive program expands a collaborative network consisting of key agencies and organizations throughout the region. This project also operates and maintains the ADA Impact Measurement System (AIMS), a web-based system that collects customer survey data. This system allows the ten regional DBTACs to evaluate the outcomes of the DBTAC program quantitatively. This project created and maintains the ADA Portal (www.adaportal.org) which is supported financially by all ten DBTACs. The Rocky Mountain DBTAC has also created numerous resources including the “disability awareness” poster series; ADA Quiz Book; and Access to Voting and Vital Signs pocket guides.
ADA Technical Assistance Projects
Region VIII - CO, MT, ND, SD, UT, and WY

Rocky Mountain Disability Business Technical Assistance Center —
Region VIII

Meeting the Challenge, Inc.
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Principal Investigator: Patrick Going, Project Director
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Fax: 719/444-0269

Project Number: H133A060079
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $1,105,000
Abstract: The Rocky Mountain DBTAC provides technical assistance, training, and information dissemination for Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming. The project builds the capacity for reaching every individual, business, public entity, and educational institution with training, materials dissemination, and technical assistance on the ADA. MTC has developed a program of technical assistance based on the concept of mass customization to address the specific needs of target groups across the region. Training activities take advantage of technology and new theories of training to ensure maximum impact. Dissemination efforts provide tailored materials that provide actionable information for the specific needs of target groups. To inform the technical assistance delivered by the DBTAC and to produce evidence-based reports on ADA implementation, a team of research organizations from across the region conducts a research agenda focused on improving employment outcomes for people with disabilities. The research program is used to inform technical assistance efforts by assessing the efficacy of the DBTAC’s core functions and translating new research results into the technical assistance process.
ADA Technical Assistance Projects
Region IX - AZ, CA, HI, NV, and the Pacific Basin

Pacific ADA & IT Center (Pacific DBTAC) — Region IX

Public Health Institute
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Suite 130
Oakland, CA 94607-4046
adatech@pdbtac.com
www.pacdbtac.org

Principal Investigator: Erica C. Jones, Project Director 510/285-5600 (V/TTY)
Public Contact: 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: H133D010209
Start Date: October 01, 2001
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 01 $1,450,000; FY 02 $1,450,000; FY 03 $1,450,000; FY 04 $1,450,000; FY 05 $1,450,000; FY 06 $0 (No-cost extension through 09/30/2007).
Abstract: The Pacific DBTAC provides technical assistance, training, and information dissemination for Arizona, California, Hawaii, Nevada, and the Pacific Basin. The latest funding cycle includes a series of innovative initiatives and approaches to enhance compliance with ADA rules and regulations. There is also an integrated action plan to enhance the availability of accessible IT equipment in Federal Region IX, primarily through a focus on educational institutions as key sites for adopting the principles of Section 508, and for ensuring full access to IT for young people with disabilities. The Pacific DBTAC’s interdisciplinary, multilevel management strategy ensures that all project objectives are tracked and attained and that Center services are fully integrated and delivered in an effective, cost-efficient, and accessible manner. The DBTAC provides quality training, federally approved materials, and technical assistance services to requesters who seek support, advice, and information and it conducts proactive strategic outreach and education services that promote adherence to ADA regulations and principles at all levels of society. Education-Based Information Technology, being a key focus, uses best practices to promote utilization throughout school systems.
Disability and Business Technical Assistance Center (DBTAC) — Pacific ADA Center

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Principal Investigator: Erica C. Jones, Project Director 510/285-5600 (V/TTY)
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Project Number: H133A060098
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $1,105,000

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 (SHRM); 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 on-line disability-related training modules and the other to develop innovative outreach and training approaches directed toward the hospitality industry.
Disability and Business Technical Assistance Center (DBTAC) — Northwest

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www.dbtacnorthwest.org

Principal Investigator: Kathe Matrone, PhD
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Project Number: H133A060084
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $1,105,000

Abstract: The Northwest DBTAC provides information, training, and technical assistance on the ADA to educational organizations, employers, advocacy organizations, state and local governments, disability service organizations, parents, and individuals with disabilities in Alaska, Idaho, Oregon, and Washington. Core services include: technical assistance provided by phone, Internet, email, and in person; information dissemination in electronic and print formats, including a comprehensive website, quarterly newsletter, etc.; education and training on various aspects of the ADA using a variety of modalities, including teleconferences, web-based multimedia events, and face-to-face; and targeted research on interventions and strategies of problematic areas identified through outreach activities, such as barriers to employment and enhancing employment outcomes.
National ADA Program Assistance Coordinator

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www.adata.org

Principal Investigator: Jennifer Eckel
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Project Number: ED-02-CO-0008
Start Date: May 03, 2002
Length: 60 months
NIDRR Officer: Richard Johnson, EdD
NIDRR Funding: FY 02 $557,883; FY 03 $577,566; FY 04 $597,152; FY 05 $617,737; FY 06 $639,328

Abstract: The role of the ADA Program Assistance Coordinator (PAC) is to enhance the performance of the organizations that are members of NIDRR’s nationwide ADA Technical Assistance grant program. These include ten regional Disability and Business Technical Assistance Centers (DBTACs), and the National Center for Accessible Information Technology at University of Washington (AccessIT). The Program Assistance Coordinator conducts: (1) coordination services, (2) collaborative assistance, (3) public relations, and (4) reporting activities. In addition, the PAC organizes and manages the semi-annual Project Directors’ meetings. It facilitates legal review of grantee generated materials and conducts periodic searches for legal proceedings on the ADA and disability related laws in federal and circuit courts. The PAC identifies and distributes appropriate materials from federal agencies, related NIDRR research projects, and private and public sector organizations. As a gateway to the national ADA technical assistance grant program, the PAC maintains a national Web site, develops and disseminates promotional materials, and provides the DBTACs with daily news updates to assure they have timely information on disability related legislation.
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.

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Rehabilitation Research and Training Centers (RRTCs)
Illinois

University of Illinois at Chicago National Research and Training Center on Psychiatric Disability

University of Illinois at Chicago
Center on Mental Health Services Research and Policy
1601 West Taylor Street, 4th Floor, M/C 913
Chicago, IL 60612
www.psych.uic.edu/uicnrtc

Principal Investigator: Judith A. Cook, PhD 312/422-8180, ext. 19
Public Contact: 312/422-8180, ext. 18 (V); 312/422-0706 (TTY); Fax: 312/422-0740

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
Other Funding: FY 05 $800,000 Centers for Mental Health Services (CMHS); FY 06 $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: A randomized controlled trial (RCT) study of Wellness Recovery Action Planning (WRAP) to gather evidence regarding its effectiveness; 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; an RCT of peer support services delivered by Georgia’s Certified Peer Specialists (CPS) at consumer-run Peer Support Centers in order to determine the outcomes of service recipients; 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 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 projects and tools to assist individuals in recovery to gain the skills necessary for community integration through 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.
Disability and Rehabilitation Research Projects
Connecticut

Building Research Capacity through Collaboration among American Indian Tribes in Connecticut and Rhode Island

Mashantucket Pequot Tribal Nation
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Principal Investigator: Valerie Ellien, PhD CRC
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Project Number: H133A031706
Start Date: November 01, 2003
Length: 60 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 03 $294,057; FY 04 $336,824; FY 05 $349,984; FY 06 $329,797

Abstract: This project builds capacity among four American Indian Tribes to improve the quality of health and disability service information available for Tribes in Connecticut and Rhode Island. Four objectives achieve this goal: (1) to investigate access to, and acceptance rates for VR services, types of services provided, and VR costs for American Indians with disabilities; (2) to ensure the optimal collaboration of Connecticut and Rhode Island Indian Tribes and others in disability and rehabilitation research, (3) to maximize potential for recruitment of American Indian researchers; and (4) to investigate and evaluate the participation of American Indians in disability and rehabilitation research activities and direct service delivery, and determine to what extent participation leads to improved VR outcomes. All staff was trained in the Participatory Action Research Model, and Culturally Appropriate Research Methodology utilizing the expertise of the American Indian Rehabilitation Research and Training Center at Northern Arizona University. An experienced senior rehabilitation researcher is used as mentor to the Research Coordinator, through development of two surveys for data collection. Two graduate students analyze the data and serve as mentors for the Research Technicians (Tribal Members) who are hired to collect the data within their own communities. Data results are shared with each of the four participating tribes (Mashantucket Pequot, Eastern Pequot, Schaghticke, and Narragansett) and with the Connecticut Bureau of Rehabilitation Services through the Advisory Council of the Mashantucket Pequot Vocational Rehabilitation Program.
**Center for Strategic Capacity Building on Minorities with Disabilities Research**

University of Illinois at Chicago  
Department of Disability and Human Development (M/C 626)  
1640 West Roosevelt Road  
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**Principal Investigator:** Fabricio E. Balcazar, PhD 312/413-1646  
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**Project Number:** H133A040007  
**Start Date:** October 01, 2004  
**Length:** 60 months  
**NIDRR Officer:** Shelley Reeves  
**NIDRR Funding:** FY 04 $600,000; FY 05 $600,000; FY 06 $600,000

**Abstract:** The Center for Capacity Building on Minorities with Disabilities Research (CBMDR) increases the capacity of community-based organizations (CBOs like Centers for Independent Living and other agencies) and State Vocational Rehabilitation Agencies (VR) to document the impact of their programs and develop culturally competent services. The CBMDR utilizes participatory research methodologies to promote organizational change. The Center’s mission is to promote positive rehabilitation outcomes for minority individuals with disabilities at the national level. Center staff conducts participatory research and demonstration projects in collaboration with interested agencies, engages in active dissemination efforts, and provides state-of-the art training and technical assistance on cultural competence to professionals and researchers in the field. Presently, there is a limited understanding of the relationship between minority and disability status and how it affects an individual’s access to quality rehabilitation, technical training, or independent living services that will result in competitive employment and increased independence. In addition, CBOs are under increased pressure from funders to use research methods to improve the quality of the services they provide. The Center utilizes a participatory program evaluation model which actively involves consumers and agency staff in the process of identifying service needs, selecting program goals, developing a logic model for success, and implementing and evaluating change efforts to address critical needs and improve services. From this perspective, participating agencies develop their capacity for effectively using consumer input and program data to identify research questions and methods to improve services. In addition, research projects examine various aspects of theory, methodology, measurement, and dissemination of information involving the study of underrepresented minorities with disabilities. Specifically, the project studies issues related to racial identity and cultural mistrust in service provision to minority populations; reviews the cultural and linguistic appropriateness of commonly used evaluation instruments in VR certification; develops standards for Culturally Competent and Linguistically Appropriate research and services; and identifies preferred strategies for the dissemination of research findings and other relevant information to researchers and service providers. Center staff is also invested in promoting cultural competence among researchers and practitioners from around the country. The research initiatives include both quantitative and qualitative methodologies. Partnerships with universities, state VR agencies, and CBOs maximize the outreach efforts and long-lasting effect of the center. The Center develops specific techniques for ensuring that the information is disseminated in accessible formats to all stakeholders.
Disability and Rehabilitation Research Projects
Louisiana

Rehabilitation Research Institute for Underrepresented Populations
(RRIUP)

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**Principal Investigator:** Alo Dutta, PhD
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**Project Number:** H133A031705
**Start Date:** December 01, 2003
**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 03 $350,000; FY 04 $350,000; FY 05 $350,000; FY 06 $350,000

**Abstract:** The goal of this project is that of improving the quality and utility of research related to individuals with disabilities from traditionally underserved racial/ethnic population to enhance knowledge and awareness of issues related to these populations, to help maximize the full inclusion and integration of individuals with disabilities into society, and to improve the effectiveness of services authorized under the Rehabilitation Act. The objectives of this project are: (1) to expand the existing and proven work alliance of three minority and two non-minority entities, e.g., Southern University, East Carolina University, Crownpoint Institute of Technology, University of Memphis, and Independent Living Research Utilization respectively, for strengthening the disability-related multicultural research framework and improving long-term rehabilitation outcomes of culturally diverse groups; (2) to investigate, evaluate, and modify five measures to assess the capacity and competence of the disability and vocational rehabilitation workforce to provide quality services to individuals with disabilities from traditionally underserved racial and ethnic populations; (3) to investigate and develop culturally appropriate research capacity and infrastructure building techniques to ensure the optimal participation of minority entities and Indian tribes in disability and rehabilitation research; and (4) to develop and evaluate outreach, recruitment, training, reinforcement, retention, and dissemination strategies to enhance participation of students and investigators from traditionally underserved populations as rehabilitation researchers, administrators, and educators.
Toward Equity: Innovative, Collaborative Research on Interpreter Training, DBT, and Psychological Testing

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Principal Investigator: Robert Pollard, PhD
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Project Number: H133A031105
Start Date: July 01, 2003
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 03 $299,900; FY 04 $299,848; FY 05 $299,985; FY 06 $299,727
Abstract: The research activities of this project focus on three thematic categories: mental health interpreting, dialectical behavior therapy, and psychological testing. The interpreter training project builds upon the Deaf Wellness Center’s (DWC) prior innovations in interpreter training and applies them to four geographically dispersed urban settings. A team of experts in the mental health interpreting field employs the DWC’s demand-control schema approach and implements a five-month program of training and supervision with a local interpreter pool. Dialectical behavior therapy (DBT) is a highly structured treatment approach focusing on emotional regulation and behavioral self-control. The three-part DBT project adapts DBT materials and methods to maximize treatment access and efficacy with three deaf consumer populations: those with language skills, those with limited language, and those with comorbid psychiatric and substance abuse problems. The Signed Paired Associates Test and the ASL Stories Test are tests of verbal learning and memory for sign language users. The extensive data that exists at the DWC regarding the tests’ psychometric properties and clinical utility implications are analyzed. This research has implications for the assessment of dementias, developmental disabilities, learning disabilities, etc. A second testing project is the development of a psychosis symptom rating scale. The goal is to produce a tool that clinicians can employ to reliably and validly identify the nature and severity of psychotic symptomatology in deaf individuals. Finally, the project includes a psychological testing casebook, written based on reviews of hundreds of DWC psychological testing case files. Most of the studies are multi-site, collaborative ventures.
Minority Scholar/Champion Research Training Project

Texas Southern University
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www.tsu.edu/academics/continue/research/index.asp

**Principal Investigator:** Irvine E. Epps, EdD  713/313-7224  
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**Project Number:** H133A031704  
**Start Date:** December 01, 2003  
**Length:** 60 months  
**NIDRR Officer:** Shelley Reeves  
**NIDRR Funding:** FY 03 $350,000; FY 04 $349,655; FY 05 $349,889; FY 06 $348,986  

**Abstract:** The Minority Scholars/Champions Research Training Project develops, implements, and evaluates the effectiveness of a train-the-trainer “Scholar/Champion” model to facilitate increased and improved vocational rehabilitation (VR)/disability research among the targeted Historically Black Colleges and Universities (HBCUs). More specifically, the project develops an innovative research infrastructure of institutional “cores” that partner an HBCU, Texas Southern University (TSU), with a majority research institution, Baylor College of Medicine (BCM). Together, these partner institutions create a collaborative research infrastructure that increases research capacity and helps build an institutional research infrastructure at five additional HBCUs in Texas. These “cores” are: (1) the Administrative, Planning, and Evaluation Core directs the Center, selects Center participants, and supervises evaluation of all project activities, budgets, and reports; (2) the Training Core uses innovative methods of onsite and off-site training to recruit, support, and mentor minority investigators in the areas of research design, development, and implementation, including analysis of racial and cultural factors related to VR/disability research; (3) the Community Collaboration and Dissemination Core partners with communities and VR/disability agencies to engage individuals with disabilities in research and training, using a model of participatory action-oriented research, and disseminates culturally-sensitive information related to VR/disability research to community groups, agencies, and VR/disability researchers; and (4) the Research Core works with the HBCU Scholar/Champions to conduct innovative and rigorous pilot research projects as well as write fully developed research proposals that address racial disparities in VR/disability research.
EMG Signal Processing Following Targeted Muscle Reinnervation for Improved Myoelectric Prosthesis Control

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Principal Investigator: Ping Zhou
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Project Number: H133F060029
Start Date: September 01, 2006
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 06 $75,000

Abstract: This study improves the control of myoelectric prostheses for upper limb amputees, especially for individuals with high levels of amputations. The study combines two recent advances for improved myoelectric prosthesis control: (1) myoelectric pattern recognition, and (2) targeted muscle reinnervation, the latter being a recent breakthrough in myoelectric control where additional control sites are created through transfer of amputees' residual nerves to spare muscles. High-density surface electromyography (EMG) signals from the reinnervated muscles are recorded during various movements involving the amputated limb; and state-of-the-art pattern recognition techniques, using different feature sets and classifiers, are applied to the recorded surface EMG signals to determine if the movements can be reliably classified. This study dramatically improves the dexterity of myoelectric prosthetic control for high levels of upper limb amputations by extracting more information from the new source EMG (achieved through targeted muscle reinnervation) using advanced signal processing systems. It also provides potential impact and clinical application of multi-function myoelectric prostheses for individuals with all types of amputations.
The Conceptual Legacy of Beatrice Wright: Capturing its Manifestations in Contemporary Rehabilitation Research and Practice

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Project Number: H133F040024
Start Date: August 15, 2004
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 04 $55,000; FY 05 $0 (No-cost extension through 8/14/2006); FY 06 $0 (No-cost extension through 1/31/2007)

Abstract: In its current Long-Range Plan, the National Institute on Disability and Rehabilitation Research (NIDRR) highlighted that its research strategy would be undergirded by “the new paradigm of disability” which was defined as “a conceptual foundation [that]...maintains that disability is a product of an interaction between individual characteristics (e.g., conditions or impairments, functional status, or personal and socio-economic qualities) and the characteristics of the natural, built, cultural, and social environments.” This project’s objective is to advance the understanding and application of this paradigm of disability, which has also been referred to as the ecological model as a way of emphasizing the interactive effects among the many aspects of the lived experience of persons with a disability in our complex society. Based on the attribution that this paradigm is rooted in the seminal work of Wright (1960) and her subsequent contributions (Wright, 1983, 1988), this project aims to clarify the connections between several core concepts in her Gestalt psychology of disability and their expression in current rehabilitation research findings and practice recommendations. Accepted methods of content analysis will be employed to identify and synthesize evidence of Wright’s concepts, both theoretical and applied, in shaping disability policy, the literature and curricula of rehabilitation education, and NIDRR-funded research. The end goal of increasing our appreciation of the origins and extensions of the ecological model is to enhance the academic and attitudinal preparation of rehabilitation professionals to better serve the disability community as attuned researchers, compassionate service providers, and passionate advocates.
Demographic Soup: Disentangling the Conceptual, Political, and Methodological Dimensions of Disability Statistics

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Project Number: H133F060011
Start Date: December 01, 2006
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 06 $75,000

Abstract: There are variances in disability research including how information is obtained and converted into useable data. This project brings together, in one document, the accumulation of knowledge on measuring disability in survey and census contexts. Through the incorporation of several methodologies including historical review, analysis of political processes and decision-making, and complete examination of the source, placement, and evaluation of disability measures currently in use, the book manuscript contributes to the improvement of disability statistics, serving as a reference document to understanding the data that exists. The book manuscript is divided into five sections: (1) examination of the political and historical context, which includes chapters on the history of disability measurement; (2) examination of the conceptualization and definition of disability, including chapters on the political definitions for programmatic purposes and theoretical definitions; (3) examination of the science, purpose, and relationship between the components of measurement, and the specific problems with measurement in relation to special populations (i.e. children); (4) reviews of sample analysis and the use of data including sources of data, research questions, and special focus on measures used in special areas of research (i.e. aging and employment); and (5) exploration of international measurement of disability and the role of the US in its development. Conclusions include recommendations for improving and standardizing the measurement and data collection process.
Factors that Influence Participation Outcomes Following Inpatient Rehabilitation

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Project Number: H133F060030
Start Date: January 01, 2007
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 06 $75,000

Abstract: This project explores the factors that contribute to improving participation outcomes across participation domains among adults, ages 18 years and older, who have received inpatient rehabilitation following major lower extremity orthopedic, neurological, or complex medical conditions. The primary goal of this project is to explore participation and predictors of recovery and how they differ across seven participation domains in each of the three major diagnostic groups. The data from this study are from the Rehabilitation Outcomes Study, a longitudinal study of 435 adults who received inpatient rehabilitation. Participation, activity limitation, and other factors were assessed at 1-, 6-and 12-months. The long term goal of this project is to assist in developing a foundation for future clinical trials of interventions or treatment approaches targeting the enhancement of participation during rehabilitation. They lead to improved understanding of participation following in-patient rehabilitation and the factors that can act as barriers or facilitators, both during and following the rehabilitation process.
Text-to-Speech Software as a Means to Improve the Unaided Reading Comprehension and Overall Reading Skills of High School Students Identified for Special Education or 504 Services

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Project Number: H133F050046
Start Date: October 01, 2005
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 05 $45,000; FY 06 $0 (No-cost extension through 11/30/2006)
Abstract: This fellowship seeks to determine if text-to-speech software is an effective tool for improving unaided reading comprehension, reading rate, and reading skills. Text-to-speech software provides access to written material that is otherwise inaccessible to individuals with poor reading skills. While text-to-speech software provides this access it is hypothesized that its use may also increase the unaided reading skills of “poor” readers. For this project, targeted research subjects are 11th grade students (estimated age range from 16 to 19) who are identified for special education or 504 services (all disability categories) and reading between the 1.0 and 5.0 grade levels. Outcomes data is collected and analyzed for each subject for the 1.5 years following the initial study. This data is used to determine if the use of text-to-speech software leads to overall improved educational performance in secondary school and improved transition to valued post-school outcomes such as access to postsecondary education and employment.
Evaluation of Barriers to Delivery of Rehabilitative Services to Infants and Toddlers in the Custody of the Illinois Department of Children and Family Services

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Project Number: H133F050018
Start Date: October 01, 2005
Length: 12 months

NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 05 $45,000; FY 06 $0 (No-cost extension through 12/31/2006)

Abstract: This project evaluates systems for delivery of early intervention services to children aged 0 to 3 with developmental delays who are under the guardianship of the State of Illinois and living in foster care due to having been adjudicated as abused or neglected; and provides vital information concerning the efficacy of one programmatic approach. The project determines the percentage of these children in Cook County, Illinois (Chicago) assessed for probable developmental delays by a specialized assessment unit mandated to serve this entire population, the percentage found to have likely developmental delays, the percentage formally evaluated, the percentage found to have confirmed developmental delays, the percentage receiving services identified in the Individualized Family Service Plan, barriers associated with the assessment/referral delivery process, and characteristics associated with cases of children most and least likely to receive services. Project results are provided to Department of Child and Family Services, and Department of Health in report form and disseminated through journals, presentations and/or conferences. This information can be used both to guide policy and practice revision as they apply to programs in Illinois and to guide program development in other states and counties. Additionally, outcomes contribute to understanding of systematic approaches to improve assessment, referral, and delivery of services to these children.
Enhanced Sensory Feedback to Improve Locomotion Following Spinal Cord Injury

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Project Number: H133F060031
Start Date: September 01, 2006
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 06 $65,000

Abstract: A common consequence of spinal cord injury (SCI) is loss or decrease of ambulatory function. This can negatively affect one’s health, quality of life, and interaction in modern society. This project assesses the benefit of enhanced sensory feedback on functional walking ability in people with SCI through the use of a wearable, custom-designed, robotic device to amplify normal limb loading patterns during gait. The device creates controllable plantar and dorsiflexion torques about the ankle. The imposed perturbations stimulate physiological load sensors within the subject’s ankle muscles and on the soles of the feet. Stimulating these load sensors enhances task-specific feedback received by the central nervous system during locomotion. Previous research demonstrated that the human nervous system uses limb load feedback to modulate muscle activity during gait. Enhanced load sensation during walking may: (1) result in increased extensor muscle activity during the stance phase of walking; (2) facilitate large changes in muscle recruitment necessary to transition from stance to swing; and (3) increase coordinated muscle activity between the lower limbs.
Improving Access to Mainstream Employment Programs for People with Serious Psychiatric Disabilities

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Project Number: H133F060044
Start Date: October 01, 2006
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 06 $65,000

Abstract: This study evaluates the reasons persons with serious psychiatric disabilities who seek work and receive job training and placement services, almost exclusively from mental health provider agencies, are rarely referred to “mainstream” job programs targeted to the general population in their communities. Research focuses on four core issues: (1) the nature and level of connection between mental health, vocational rehabilitation, and workforce development agencies; (2) the perceived reasons for the infrequent utilization of mainstream job programs by those with serious psychiatric disabilities; (3) the perceived benefits and problems associated with greater use of mainstream workforce programs; and (4) the practice, program, and policy level recommendations respondents believe would improve access to and success in mainstream job programs by persons with psychiatric disabilities. Research findings are disseminated through a published final report, journal articles (professional and consumer publications), and conference and training programs in the field.
Skin Blood Flow Oscillations and Pressure Ulcer Risk in Older Adults with Disabilities

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Project Number: H133F060025
Start Date: December 01, 2006
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 06 $65,000

Abstract: Pressure ulcers significantly affect the quality of life and overall healthcare costs for older people with disabilities. Current clinical pressure ulcer prevention in this population is inadequate due to prevention interventions determined to be at risk by the Braden Scale tool. This project develops alternative methods and tools for the identification of older people at the highest risk for pressure ulcers. Specific aims include: (1) comparing microvascular vasodilatory function and blood flow oscillations between older people at high and low risk of pressure ulcers; and (2) studying the age-related microvascular dysfunction in older people, correlating to risk levels identified by the Braden Scale, and to the physical characteristics of older people. Four hypotheses are tested including: (1) maximal skin blood flow in response to heat is lower in older people at risk for pressure ulcers as compared with older people at low risk; (2) the power within the 0.008-0.02 Hz frequency band (i.e. endothelial nitric oxide mediation control) embedded in skin blood flow oscillations is lower in older people at high risk as compared with older people at low risk; (3) the power within the 0.008-0.02 Hz frequency band is lower in older people ages 75-85 years as compared with older people ages 65-75 years; and (4) physical characteristics missed in the Braden Scale of older people show a correlation with the decreased total skin blood flow and/or decreased power within nitric oxide mediation vasodilation.
A Survey of Employment Needs of People of Color with HIV/AIDS

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Project Number: H133F060045
Start Date: January 01, 2007
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 06 $65,000

Abstract: Using qualitative and quantitative research methods, this project identifies the unique issues and concerns related to considering and maintaining work among people of color living with HIV/AIDS. Focus groups are organized to gain perspectives of women and people of color regarding employment related issues and the use of vocational rehabilitation services. The results of this study are reviewed by an expert panel and may result in revisions to the NWPC National Employment Needs Survey. The resulting instrument is formatted into a variety of media formats (online, paper and pencil) allowing for maximum distribution among agencies serving people of color with HIV/AIDS. Peer recruiters engage approximately 60 participants in focus groups and 2,000 participants responding to the survey. Analyzed data and findings are reported to participating agencies, creating an understanding of (1) the extent to which employment services are needed among people of color, and (2) what factors need to be considered in the design of employment services for women and people of color.
The Impact of Alcohol Use on Outcome and Recovery after Traumatic Brain Injury

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Project Number: H133F060032
Start Date: August 14, 2006
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 06 $65,000

Abstract: Pre-injury alcohol abuse is common among individuals who sustain traumatic brain injuries (TBI). Although alcohol consumption generally declines following TBI, as many as half of individuals who were moderate to heavy drinkers prior to the injury return to this level of drinking following the injury. High levels of alcohol consumption may impede neurological recovery, contribute to additional head injury, decrease benefit from rehabilitation, and ultimately impact functional recovery such as return to work and school. Despite its clinical significance, the factors that underlie return to problematic drinking have not been clearly elucidated, the temporal course of relapse is not clear, and the impact of drinking on cognitive and functional recovery is not fully understood. This study: (1) uses archival data to provide information about the incidence of problematic drinking at four time points post-injury (1 month, 6 months, 12 months, and 3-5 years) and individuals with complicated mild to severe TBI who were consecutively admitted to the emergency department; (2) identifies demographic, emotional, and injury-related factors that are associated with problematic drinking at each time point to identify risk factors for increased alcohol consumption; (3) evaluates neuropsychological performance over time compared between pre-morbid heavy drinkers who did and did not return to drinking post-injury in determining the cognitive impact of this behavior; and (4) evaluates the relationship between functional outcome and post-injury alcohol consumption, while controlling for pre-injury alcohol use and blood alcohol level at time of injury. This may provide considerable information necessary for effective alcohol treatments post-injury while also providing important information to persons who have sustained TBI, their families, and rehabilitation professionals.
Advanced Rehabilitation Research Training Projects

Clinician Researchers and Engineers: Advanced Rehabilitation Research Training

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Project Number: H133P040008
Start Date: September 01, 2004
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 04 $150,000; FY 05 $150,000; FY 06 $150,000

Abstract: This program provides advanced education and training in rehabilitation research to selected engineers and clinician researchers. The overall goal is to develop expertise, enthusiasm, and productivity in rehabilitation research which results in an increase in the number of rehabilitation-trained physicians and engineers. Fellows are trained to conduct independent transdisciplinary research on problems related to disability and rehabilitation. The specific goal is produce productive career researchers. The program is specifically designed to give the postdoctoral trainees the skills needed to become independent rehabilitation researchers. The postdoctoral trainees experience a program designed to provide each candidate with a unique set of capabilities to succeed as a rehabilitation researcher. The capstone experience for the postdoctoral trainees is the submission of an extramural research proposal. Three research areas have been selected that provide opportunities to participate in advanced-level research: motion analysis, spasticity, and accessible medical instrumentation. Four clinical areas give participants clinical experiences to link to their research experiences: spasticity management, pain management, spinal cord injury, and motion analysis. As part of the professional development of the postdoctoral trainees and to increase the exposure to rehabilitation research, cross-disciplinary teaching is encouraged. At the completion of the program, all trainees have completed a directed independent research project, written and submitted scientific manuscripts, prepared a complete extramural grant proposal, and gained experience in managing a functional research team.
Advanced Rehabilitation Research Program: Ed Roberts Fellowship in Disability Studies

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Project Number: H133P020009
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Ruth Brannon
NIDRR Funding: FY 02 $150,000; FY 03 $150,000; FY 04 $150,000; FY 05 $150,000; FY 06 $150,000
Other Funding: FY 04 $150,000

Abstract: This program trains scholars who have PhD, MD, or other advanced professional degrees, conferred in the last five years, to be leaders in disability studies and rehabilitation research, teaching and mentorship. Based at the University of California, Berkeley, a San Francisco Bay area-wide consortium of universities, research institutes, and disability agencies recruits people who want to broaden their theoretical outlook and their disability research methodological skills. In particular, the project recruits scholars with significant disabilities from minority groups who have not had the opportunity for collaborative cross-disciplinary research study of disability that includes social science and the humanities. The project supports three nine-month-long (September to May) Ed Robert Postdoctoral Fellowships a year for each of the five program years. Fellows devote their full-time effort to Fellowship activities on site. Funding includes a stipend and travel funds.
Advanced Rehabilitation Research Training Projects  
Florida  

Interdisciplinary Rehabilitation Research Post-Doctoral Program  

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Project Number: H133P020005  
Start Date: August 01, 2002  
Length: 60 months  
NIDRR Officer: Margaret Campbell, PhD  
NIDRR Funding: FY 02 $150,000; FY 03 $150,000; FY 04 $150,000; FY 05 $150,000; FY 06 $150,000  
Abstract: This project addresses the shortage of rehabilitation researchers through an interdisciplinary postdoctoral training program in rehabilitation research. The focus is on recruiting and training postdoctoral fellows with backgrounds in professions of high need, specifically rehabilitation engineering, physical therapy, and occupational therapy. There is also a strong focus on recruiting members of groups that have been traditionally underrepresented in rehabilitation research positions. The participating faculty for this program have large funded programs of rehabilitation research and also have considerable experience in serving as mentors for advanced research training. The program offers postdoctoral fellowships from two to three years to qualified individuals interested in rehabilitation research. Postdoctoral fellows focus in an area related to one of the levels of these models: neurological rehabilitation, rehabilitation engineering, and rehabilitation outcomes research.
Advanced Rehabilitation Research Training Projects
Illinois

Advanced Rehabilitation Research Training Project in Rehabilitation Services Research

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Project Number: H133P030002
Start Date: July 01, 2003
Length: 60 months
NIDRR Officer: Ruth Brannon
NIDRR Funding: FY 03 $150,000; FY 04 $150,000; FY 05 $150,000; FY 06 $150,000

Abstract: This project develops a five-year fellowship program in rehabilitation-related health services research at Northwestern University’s Institute for Health Services Research and Policy Studies and the Department of Physical Medicine and Rehabilitation. It uses available expertise and collaborators to train postdoctoral fellows in rehabilitation health services research. Over two years the program includes course work, a practicum, original research, and grant writing. Fellows new to health services research have six core courses, as well as the two additional courses for all fellows. The first year concentrates on beginning Masters in Public Health (MPH) courses. The second year includes intermediate MPH course work plus electives. Each fellow is expected to develop an individual research project by the end of the first training year, a publishable article by the end of the first year, and two articles by the end of the second year, in addition to submitting at least one grant application related to the research activity.
Rehabilitation Science for Basic Scientists & Engineers: An Advanced Training Program

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Project Number: H133P040007
Start Date: May 01, 2004
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 04 $149,625; FY 05 $149,922; FY 06 $149,570
Abstract: The goal of this program is to increase the number of PhD engineers and basic scientists trained to perform research aimed at solving problems of people with disabilities. To meet this objective, the project trains postdoctoral scientists in three areas of special expertise: musculoskeletal biomechanics; neurorehabilitation; and prosthetics, orthotics, and biomaterials. Targeted technical training is coordinated with intensive clinical instruction and experience. Postdoctoral trainees, including scientists and engineers from minority or disability groups, are recruited by regional and national advertising and via the Internet. Many training faculty are based within the Rehabilitation Institute of Chicago, providing access to active clinical rehabilitation programs, and interaction both with clinical faculty and people with disabilities.
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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Project Number: H133P060003
Start Date: September 01, 2006
Length: 60 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 06 $150,000

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). As such it 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.
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Project Number: H133P020011
Start Date: September 01, 2002
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 02 $149,984; FY 03 $149,991; FY 04 $149,996; FY 05 $149,988; FY 06 $149,945

Abstract: This project prepares a cadre of six advanced-level researchers in the area of psychiatric rehabilitation. The recruitment efforts target consumers, with the expectation that one or more consumers will be selected for the training program. Six fellows are recruited over the course of the project. The training program consists of two consecutive cycles of 2.25-year postdoctoral fellowships in psychiatric rehabilitation research. In order to optimize the training experience, three fellows are in residence during each cycle. While the fellowship is designed to provide 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 oriented systems, recovery framework and consumer issues, research design/methodology, statistics, computer literacy, conduct of applied rehabilitation research, and grant and professional writing.
Advanced Rehabilitation Research Training Projects
Massachusetts

Post-Doctoral Fellowship in Rehabilitation Outcomes and Effective Research

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Project Number: H133P050001
Start Date: September 01, 2005
Length: 60 months
NIDRR Officer: Ruth Brannon
NIDRR Funding: FY 05 $150,000; FY 06 $150,000
Abstract: The BU Post-Doctoral Fellowship Program in Outcomes Research provides an interdisciplinary training and mentorship experience. The target group is doctorally-prepared rehabilitation professionals. The major function is to help post-doctoral fellows develop and refine the skills they will need to conduct high quality, independent, funded research on the outcomes and effectiveness of rehabilitation care. Innovative strategies include: Obtaining advanced knowledge in the four content areas of responsible conduct of research, advanced research design, advanced statistical methods, and contemporary measurement methodology; conceptualizing and assuming a major role in writing scientific articles; obtaining experience in developing and presenting scientific presentations; assuming a major role in writing research grant applications; and developing the ability to contribute in a meaningful and constructive fashion in planning and implementing scientific abstracts, grant applications, and scientific manuscripts as part of a research team. The main outcome of the program is to contribute to the creation of a cadre of highly skilled researchers equipped to conduct research to improve rehabilitation outcomes and evaluate existing and new rehabilitation interventions.
Advanced Rehabilitation Research Training Projects
Michigan

The UMHS/MSU/AACIL Rehabilitation Research Training Program

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Project Number: H133P030004
Start Date: September 01, 2003
Length: 60 months
NIDRR Officer: Ruth Brannon
NIDRR Funding: FY 03 $150,000; FY 04 $150,000; FY 05 $150,000; FY 06 $150,000
Abstract: The University of Michigan Health System (UMHS), Department of Physical Medicine and Rehabilitation, and the Ann Arbor Center for Independent Living (AACIL) with consulting faculty from Michigan State University (MSU) and Wayne State University (WSU) have developed a training program to train six PhD and ten MD fellows. Training opportunities include the existing research programs funded at UMHS, the academic doctoral level rehabilitation counseling program at MSU, the multidisciplinary rehabilitation program at WSU, and opportunities for research training at a community-based agency, the AACIL. Emphasizing the consumer-scientist-practitioner model, this multidisciplinary research training program utilizes faculty and resources from 3 universities and from the AACIL to train 16 new fellows. Fellows and resident trainees may select from a curriculum that focuses on three content areas: (1) health rehabilitation outcomes; (2) independent living and community re-integration; and (3) social/environmental aspects of rehabilitation, including assistive technology.
Health Activity Rehabilitation Research Training Center (HARRTC)

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Project Number: H133P050005
Start Date: September 01, 2005
Length: 60 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 05 $150,000; FY 06 $150,000

Abstract: The specific aim of the Health Activity Rehabilitation Research Training Center is to prepare postdoctoral trainees with comprehensive, collaborative research skills requisite for a career in independent rehabilitation research. A key outcome of this project is a sustainable, replicable, training model that enhances the flow of basic research findings to clinical settings, thereby enhancing rehabilitation strategies for individuals with disabilities. One-third of project fellows are selected from underrepresented populations, including individuals with disabilities. Postdoctoral fellows study a rigorous, two-year core curriculum in advanced scientific methodology, and engage in multidisciplinary training experiences through: (1) collaborating agencies; (2) campus and community settings; (3) research mentors (scientists) from Biomedical Sciences, Physiology and Pharmacology, Nutrition Sciences, and Physical Therapy; and (4) rehabilitation clinician-mentors. The training program incorporates didactic, classroom, and hands-on laboratory training. By the conclusion of training, postdoctoral fellows will have completed a supervised independent research project, prepared scientific manuscripts, presented their research findings at national meetings, and submitted their capstone project, an extramural grant application. This program offers fellows a dual model of mentorship: a clinical mentor and a scientist research mentor. In addition, a graduate-thesis research model provides fellows with first-hand research experience.
Advanced Rehabilitation Research Training Projects
New Jersey

Advanced Psychiatric Rehabilitation Research on Employment and Community Integration

University of Medicine and Dentistry of New Jersey
School of Health Related Profession
1776 Raritan Road
Scotch Plains, NJ 07076-2997

Principal Investigator: Kenneth J. Gill, PhD 908/889-2438

Project Number: H133P050006
Start Date: September 01, 2005
Length: 60 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 05 $149,999; FY 06 $149,999

Abstract: This project offers a postdoctoral research training program in the areas of community integration, natural supports including “circles of support”, and rehabilitation readiness. Fellows participate in a variety of mentoring and didactic experiences provided by research mentors from UMDNJ and the University of Pennsylvania. Fellows have the opportunity to continue to develop their own long-term research program while participating in the research activities of their mentor. They regularly present at departmental colloquia, and national and state conferences. Fellows develop grant proposals and prepare articles for publication in peer-reviewed journals. Both didactic and field training in psychiatric rehabilitation research focus on scientific methodology including experimental, quasi-experimental, and correlational and survey methods. Fellows participate in research in one of the following research areas: (1) comparing alternative job retention strategies including circle of support approach to a diversity of strategies; (2) the reliability and validity of rehabilitation readiness measures and indicators including their relationship to employment outcomes; and (3) a variety of community integration projects on the factors that influence community integration, public policy affecting the community and interventions designed to promote community integration through case management, internet-based self-help or supported education provided by peers. Partner institutions include the University of Pennsylvania RRTC on Community Integration, Upenn School of Social Work, Indiana University-Purdue University School of Psychology, Boston University Sargent College of Health and Rehabilitation and the Veterans Affairs of New Jersey.
Advanced Rehabilitation Research Training Center on Outcomes and Intervention Effectiveness

University of Medicine & Dentistry of New Jersey
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www.kmrec.org/KM/careers/post_doc_research_fellowships.php3

Principal Investigator: Mark V. Johnston, PhD 973/243-6810
Public Contact: Mark V. Johnston, PhD 973/243-6810; Fax: 973/243-6963

Project Number: H133P020012
Start Date: March 01, 2002
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 02 $149,847; FY 03 $149,500; FY 04 $149,500; FY 05 $149,500; FY 06 $149,500

Abstract: This postdoctoral research training program develops researchers who advance knowledge of the impact of interventions—medical, activity-based, social-psychological, and environmental—on outcomes for persons with physical and neurological disabilities. The program emphasizes the actual conduct of research, leading to publication. Outcomes-related study topics include research on prognosis and severity adjustment, treatment guidelines, quality improvement strategies, cost-effectiveness, and issues of health policy. Fellows typically begin by participating in one or more research projects suggested by their mentor and studying to improve their knowledge and skills. Fellows also develop their own research grant proposals. The program is supported by the University of Medicine and Dentistry of New Jersey/New Jersey Medical School and the Kessler Medical Rehabilitation Research and Education Corporation.
Advanced Rehabilitation Research Training Projects

New York

Advanced Rehabilitation Research Training Program

Mount Sinai School of Medicine
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Principal Investigator: Mary R. Hibbard, PhD 212/659-9374
Public Contact: 212/659-9374; Fax: 212/348-5901

Project Number: H133P050004
Start Date: September 01, 2005
Length: 60 months

NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 05 $149,999; FY 06 $149,999

Abstract: This Advanced Rehabilitation Research Training Program increases research capacity by training ten doctoral level professionals interested in pursuing research careers in rehabilitation of individuals with traumatic brain injury (TBI) and spinal cord injury (SCI). In addition to expanding their research expertise, fellows will increase their knowledge of participatory action research, quantitative and qualitative research methods, and actively participate with an interdisciplinary team of rehabilitation researchers. Fellows are taught approaches to performance management and methods of evidenced-based practice review. Research capacity building of the fellows is facilitated via mentoring on independent research projects and clinical supervision in interdisciplinary research experiences. To ensure sensitivity to issues germane to individuals with TBI and SCI, fellows spend a portion of their time providing clinical interventions or participating in structured community experiences. Performance measures are utilized to monitor progress of the program and its fellows, with oversight provided by an executive committee and an advisory board. By completion of training, fellows are expected to have completed a minimum of one independent research project, presented the results of their research to professional and consumer groups, submitted their findings for publication in peer-reviewed journals, and participated in writing extramural grant proposals.
Advanced Rehabilitation Research Training Projects
Texas

Interdisciplinary Rehabilitation Research Training Program

University of Texas Medical Branch
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Galveston, TX 77555-1137
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Principal Investigator: Kenneth J. Ottenbacher, PhD
Public Contact: Beth Cammarn 409/747-1637; Fax: 409/747-1638

Project Number: H133P040003
Start Date: July 01, 2004
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 04 $145,686; FY 05 $145,686; FY 06 $145,686

Abstract: This ARRT program provides postdoctoral research opportunities to qualified individuals interested in clinical and academic careers related to rehabilitation research. Three postdoctoral fellows must plan, conduct, and disseminate research in one of the following areas: cognitive/neurological rehabilitation, applied physiology/biomechanics of rehabilitation, or geriatric rehabilitation. Each rehabilitation research fellow selects one of the three research areas and conducts clinical investigations for up to three years. 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 participating in clinical research activities, each fellow completes a series of core courses and directed study related to interdisciplinary research and the ethics associated with scientific inquiry and the use of human subjects in rehabilitation research. All fellows participate in a practicum experience involving persons with disabilities and their families/caregivers organized through the Transitional Learning Center. The activities of each postdoctoral fellow are directed and monitored by a fellowship supervisor with a demonstrated ability to implement, conduct, and disseminate the results of research investigations contributing to the advancement of rehabilitation science.
Advanced Rehabilitation Research Training Projects
Texas

Advanced Rehabilitation Research Training

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Public Contact: Karstena Ockelberry 713/797-5940; Fax: 713/797-5982

Project Number: H133P020003
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 02 $150,000; FY 03 $150,000; FY 04 $150,000; FY 05 $150,000; FY 06 $150,000

Abstract: This program trains postdoctoral fellows in the skills necessary to become independent investigators in rehabilitation. Research training in the Department of Physical Medicine and Rehabilitation is multidisciplinary in nature, and encompasses the spectrum from basic mechanism to societal integration. Through this program, fellows develop research expertise in spinal cord injury, stroke, Parkinson’s disease, amputee rehabilitation, neuropsychological rehabilitation/cognitive neuropsychology, rehabilitation outcomes, and social policy. The coursework includes topics such as research methodology, statistical methods, ethical issues, special populations, and scientific writing. The Applied Rehabilitation Research Course complements the Clinical Scientist Training Program by emphasizing the unique characteristics of research in rehabilitation. Fellows also participate in other education activities such as the department’s Research, Education, and Development Seminar and are expected to present and produce documentation for publication on their independent research and prepare applications for federal funding building on their project for career development. They also attend, and submit abstracts for presentation at, national professional meetings to begin to integrate into the greater rehabilitation research community.
Advanced Rehabilitation Research Training Projects
Virginia

Advanced Research Training Program

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www.npy.pmr.vcu.edu/arrt/overview.htm

Principal Investigator: Jeffrey Kreutzer, PhD 804/828-9055
Public Contact: Lee Livingston 804/828-3706; Fax: 804/828-2378

Project Number: H133P040006
Start Date: October 01, 2004
Length: 60 months
NIDRR Officer: Ruth Brannon
NIDRR Funding: FY 04 $150,000; FY 05 $150,000; FY 06 $150,000
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 VCU 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.
Advanced Rehabilitation Research Training Projects
Wisconsin

Advanced Rehabilitation Research Training for Physicians and Biomedical Engineers

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

Project Number: H133P020004
Start Date: July 01, 2002
Length: 60 months
NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 02 $84,566; FY 03 $144,506; FY 04 $148,634; FY 05 $149,186; FY 06 $149,748

Abstract: This project develops expertise, enthusiasm, and productivity in rehabilitation research that results in an increase in the number of rehabilitation-trained physicians and biomedical engineers able to conduct independent transdisciplinary research on problems related to disability and rehabilitation. The program is specifically designed to give the postdoctoral trainees the skills needed to become productive career researchers. The training program utilizes a rehabilitation research team consisting of a focused cadre of mentors and two postdoctoral fellows (one postdoctoral physician and one postdoctoral biomedical engineer). The trainees are enrolled in the research training program for 18 months. A total of three physicians and three biomedical engineers participate in this training program over the five-year period.