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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 2007 fiscal year.

The contextual paradigm of disability and rehabilitation research, originally described in NIDRR’s Long Range Plan, 1999-2003, continues to frame the NIDRR research agenda. This paradigm overcomes the limitations imposed by a medical model of disability. This 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, and small business innovation research. NIDRR also administers the Disability and Business Technical Assistance Centers.

Disability and Rehabilitation Research Projects

The Disability and Rehabilitation Research Projects (DRRP) program funds projects with special emphasis on research, demonstration, 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 Coordination, Outreach, and Research Center assists all of the grantees with their activities.

**Small Business Innovation Research**

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

**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 is available online at http://www.naric.com.

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

This Directory is not intended for use as a fiscal document to show how NIDRR funds are allocated; its purpose is to display the range of programs that NIDRR supports. This listing is current as of November 15, 2007. 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)
Massachusetts

Rehabilitation Research and Training Center for Vocational Rehabilitation Research

University of Massachusetts Boston
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Principal Investigator: John Halliday
Public Contact: 617/287-4336

Project Number: H133B070001
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 07 $649,999

Abstract: The RRTC for Vocational Rehabilitation Research provides a comprehensive description of the vocational rehabilitation (VR) program, collects best practices, and addresses the need for information that will assist administrators, researchers, and advocates to make data driven policy and practice decisions. The RRTC (1) conducts an exhaustive, systematic research literature search in Year 1, modeled after the Campbell Collaboration reviews, to provide a comprehensive platform for future research activities of the RRTC and for other researchers and policy-makers; (2) collects descriptive data from a wide range of sources including existing administrative datasets, official documents, and launches the RRTC survey of state agencies for vocational rehabilitation, mental retardation/developmental disability, mental health, and welfare, and community rehabilitation providers in Years 2 and 3 to develop state-by-state profiles of employment services and the context of VR service delivery; (3) interviews VR directors of all 80 VR agencies in Years 2 and 3 to collect descriptive information about key characteristics related to operational and programmatic decisions, policies, and practices; (4) uses the Delphi Method in Years 3 through 5 to identify, evaluate, and describe best practices in the implementation of (a) Order of Selection policies and the prioritization of individuals with the most significant disabilities for VR services; (b) employment services for individuals with developmental disabilities; and (c) employment services for individuals with mental illnesses; (5) institutes a training and technical assistance agenda that uses Communities of Practice mechanisms to create interactive participant-driven opportunities for translation, information sharing, and policy development; and (6) widely disseminates products, curricula, and knowledge throughout the vocational rehabilitation system, employment services system, and to a wide array of disability and advocacy organizations. The RRTC develops a knowledge-base on VR that informs policy and practice at the federal, state, and local levels, encourages data-based decision-making, results in the development of a research base that future investigators can use for analyzing the consequences and outcomes of variations in State VR agencies’ internal arrangements and operations, documents best practices in detail, identifies their key features, and investigates their transferability into other contexts. The RRTC is a partnership of the Institute for Community Inclusion at the University of Massachusetts Boston, the Center for the Study and Advancement of Disability Policy, and InfoUse, a woman-owned business.
Rehabilitation Research and Training Center on Disability in Rural Communities

University of Montana
The University of Montana Rural Institute: A Center for Excellence in Disability Research, Education and Services
52 Corbin Hall
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Principal Investigator: Tom Seekins, PhD 406/243-2654
Public Contact: Diana Spas 888/268-2743 (V); 406/243-5467 (V); 406/243-4200 (TTY); Fax: 406/243-2349

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; FY 07 $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 Center on Employment Policy and Individuals with Disabilities

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Employment and Disability Institute
ILR School; 201 ILR Extension Building
Ithaca, NY 14853-3901
smb23@cornell.edu
www.ilr.cornell.edu/edi/p-eprrtc.cfm

Principal Investigator: Susanne Bruyère, PhD; Richard Burkhauser, PhD; David Stapleton, PhD
Public Contact: Susanne Bruyère, PhD 607/255-9536 (V); 607/255-2891 (TTY); Fax: 607/255-2763

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; FY 07 $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

Employment Service Systems Rehabilitation Research and Training Center

Hunter College of CUNY
Research Foundation of CUNY
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www.essrtc.org

Principal Investigator: John O’Neill, PhD
Public Contact: 212/772-5188; Fax: 212/650-3198

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; FY 07 $699,998

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 US 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 collaboration between Workforce Investment Act (WIA) partners in One-Stops collects data within 16 Iowa regions and correlates different levels of collaboration with customer satisfaction and employment outcomes.
Rehabilitation Research and Training Center on Substance Abuse, Disability, and Employment

Wright State University
School of Medicine; Substance Abuse Resources and Disability Issues (SARDI)
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www.med.wright.edu/citar/sardi/rrtc_about.html

Principal Investigator: Dennis C. Moore, EdD
Public Contact: Mary McAweeney 937/775-1484 (V/TTY); Fax: 937/775-1495

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; FY 07 $699,984

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 Centers (RRTCs)
Virginia

Rehabilitation Research and Training Center on Workplace Supports and Job Retention

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Rehabilitation Research and Training Center on Workplace Supports
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www.worksupport.com

Principal Investigator: Paul Wehman, PhD
Public Contact: Valerie Brooke, Director of Training 804/828-1851 (V); 804/828-2494 (TTY); Fax: 804/828-2193

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; FY 07 $699,988

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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College of Education and Health Professions
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Little Rock, AR 72205
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Principal Investigator: Douglas Watson, PhD
Public Contact: 501/686-9691; Fax: 501/686-9698

Project Number: H133A060044
Start Date: January 01, 2007
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $450,000; FY 07 $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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Rehabilitation Research and Training Center on Blindness and Low Vision
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www.blind.msstate.edu

Principal Investigator: B.J. LeJeune, MEd, CVRT, CRC
Public Contact: 662/325-2001; 662/325-8693 (TTY); Fax: 662/325-8989

Project Number: H133A020701
Start Date: November 01, 2002
Length: 60 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 02 $500,000; FY 03 $500,000; FY 04 $500,000; FY 05 $500,000; FY 06 $500,000; FY 07 $0 (No-cost extension through 10/31/2008)

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.
Mississippi State University  P.O. Box 6189  Mississippi State, MS 39762  schaefer@ra.msstate.edu  www.blind.msstate.edu

Principal Investigator: Brenda Cavenaugh 662/325-3728  
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Project Number: H133A070001  
Start Date: October 01, 2007  
Length: 36 months  
NIDRR Officer: Edna Johnson  
NIDRR Funding: FY 07 $450,000

Abstract: This project conducts scientifically based research on transition services that lead to competitive employment outcomes for transition-age individuals with blindness or other visual impairments. The project includes four major research projects and a plan of dissemination. Project 1 involves conducting an integrative (systematic) literature review to identify and synthesize research on services leading to successful employment and other postsecondary outcomes for blind youth. The review process is considered empirical research and is approached with the scientific rigor used when conducting primary research. Project 2 includes analysis of five national, cross-sectional, and longitudinal data sources to explore relationships between potential causes or influencing factors and positive transition outcomes of youth who are blind or visually impaired. Specialized approaches used in analysis of the longitudinal data sources allow opportunity for causal inferences. Project 3 uses qualitative and quantitative methods in the collection of data from a variety of sources (focus groups with rehabilitation professionals, teachers, post-secondary support service providers, SSA representatives, and others; interviews with consumers; VR case records). The research identifies factors that impact the employment status of transition-age youth. Project 4 involves using knowledge gained from Projects 1, 2, and 3 to identify and develop, demonstrate, and evaluate the effectiveness of two interventions—one targeting youth who are preparing to transition from high school to employment or college and the other targeting youth who are preparing to transition from college to employment. In implementing the plan of dissemination, a variety of methods help ensure that the quality, clarity, and accessibility of products are appropriate for the target population.
I.T. Works

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Public Contact: Michael Morris, JD; James Schmeling, JD 315/443-9703 (Blanck); 202/521-2930 (Morris); 319/335-8459 (Schmeling);

Project Number: H133A050031
Start Date: December 31, 2005
Length: 12 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 05 $299,901; FY 06 $0 (No-cost extension through 12/31/2007); FY 07 $0 (No-cost extension through 12/31/2008)

Abstract: The goal of the I.T. Works project is to identify barriers to and facilitators of the hiring, retention, advancement, and wages of individuals with disabilities. Research shows that the percentage of working-age individuals with disabilities in full- or part-time positions is substantially lower than the percentage of working-age people without a disability, and there is a demand for trained IT workers. Increasing the employment of individuals with disabilities in IT-related jobs would increase the employment of individuals with disabilities overall and reduce the shortage for trained IT workers. Research activities for this project include a theoretical model in which predictive measures include environmental factors, organizational factors, attitudinal factors, and individual characteristics. Outcome measures in the model include hiring rate, advancement rate, retention rate, and wages of individuals with disabilities. Training activities allow for the distribution of the research findings to diverse target audiences, including employers, IT trainers and professionals, persons with disabilities in diverse employment settings, other researchers, and relevant policymakers. Target audiences also include IT employers, IT training certification bodies, human resource managers, community colleges and university continuing education programs, and Centers for Independent Living and other disability-related organizations.
Disability and Rehabilitation Research Projects
New York

Demand-Side Employment Placement Models

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Syracuse, NY 13244
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Principal Investigator: Peter D. Blanck, PhD, JD 315/443-9703
Public Contact: William N. Myhill, MEd, JD 315/443-1367; Fax: 315/443-9725

Project Number: H133A060033
Start Date: July 01, 2006
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $500,000; FY 07 $500,000

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.
Cognitive Training and Supported Employment in Severe Mental Illness

Dartmouth College
PRC, 105 Pleasant Street
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susan.r mcgurk@dartmouth.edu

Principal Investigator: Susan McGurk, PhD
Public Contact: 603/271-5747; Fax: 603/271-5265

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; FY 07 $149,106

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

Dartmouth Medical School
Department of Psychiatry
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Project Number: H133G050181
Start Date: October 01, 2005
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 05 $149,796; FY 06 $149,832; FY 07 $149,431

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

Lighthouse International
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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; FY 07 $149,916

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.
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 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; FY 07 $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.
Aging-Related Changes in Impairment for Persons Living with Physical Disabilities

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Downey, CA 90242
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www.agingwithdisability.org

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; FY 07 $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 Center on Spinal Cord Injury: Promoting Health and Preventing Complications through Exercise

National Rehabilitation Hospital/MedStar Research Institute
Center for Health and Disability Research
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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; FY 07 $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. In addition to its offerings on www.sci-health.org, the RRTC maintains a Live Journal site at rrtc-sci.livejournal.com. In addition to other webcast accessible through the Multimedia pages on the sci-health.org website, the entire Fall 2006 State of the Science Conference is available on demand at www.sci-health.org/SOS/SOS.php.
Rehabilitation Research and Training Centers (RRTCs)
Illinois

RRTC on Technology Promoting Integration for Stroke Survivors:
Overcoming Social Barriers

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Principal Investigator: Elliot J. Roth, MD 312/238-4637
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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; FY 07 $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 workforce; 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.
Rehabilitation Research and Training Centers (RRTCs)
Missouri

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; FY 07 $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; FY 07 $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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Principal Investigator: Gloria Krahn, PhD, MPH 503/494-8364
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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; FY 07 $700,000

Abstract: The vision of the RRTC is to contribute to the reduction of health disparities for person 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.
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; FY 07 $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 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.
Disability and Rehabilitation Research Projects
Alabama

University of Alabama at Birmingham (UAB) Traumatic Brain Injury Model System (UAB TBIMS)

University of Alabama/Birmingham
Spain Rehabilitation Center; Physical Medicine and Rehabilitation
619 - 19th Street South, SRC529
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novack@uab.edu
www.uab.edu/tbi

Principal Investigator: Thomas A. Novack, PhD
Public Contact: Pamela K. Mott 205/934-3283

Project Number: H133A070039
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $434,398

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

Northern California Traumatic Brain Injury Model System of Care

Santa Clara Valley Medical Center (SCVMC)
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Principal Investigator: Tamara Bushnik, PhD
Public Contact: 408/793-6433; Fax: 408/793-6434

Project Number: H133A020524
Start Date: October 01, 2002
Length: 60 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 02 $364,038; FY 03 $364,588; FY 04 $364,745; FY 05 $364,956; FY 06 $353,426; FY 07 $0 (No-cost extension through 9/30/2008)

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.
Northern California Traumatic Brain Injury Model System of Care

Santa Clara Valley Medical Center (SCVMC)  
Rehabilitation Research Center  
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**Principal Investigator:** Tamara Bushnik, PhD  
**Public Contact:** 408/793-6433; Fax: 408/793-6434

**Project Number:** H133A070038  
**Start Date:** October 07, 2007  
**Length:** 60 months  
**NIDRR Officer:** Phillip Beatty  
**NIDRR Funding:** FY 07 $426,720; FY 08 $426,720  
**Abstract:** This project conducts research with a focus on fatigue in individuals with traumatic brain injury (TBI). Current studies have identified a strong association of fatigue with sleep disorders, depression, pain, and cognitive challenges; the prevalence of pituitary dysfunction is high in this group as well but the level of dysfunction is not proportional to levels of fatigue. This site specific research effort is a prospective, randomized, single-blind crossover study that evaluates the impact of a graduated physical activity program on fatigue and related factors of depression, sleep quality/daytime drowsiness, cognitive function, and general health measures.
UCHSC Burn Model System Data Coordination Center (BMS/DCC)

University of Colorado Health Sciences Center  
School of Medicine  
Department of Preventive Medicine and Biometrics  
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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: H133A070006  
Start Date: October 01, 2007  
Length: 60 months  
NIDRR Officer: Kenneth D. Wood, PhD  
NIDRR Funding: FY 07 $300,000

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

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

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

Project Number: H133A060103
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 06 $2,200,000; FY 07 $900,000

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.
Disability and Rehabilitation Research Projects
Colorado

The National Data and Statistical Center for the Traumatic Brain Injury
Model Systems

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charrison-felix@craighospital.org
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Principal Investigator: Cynthia Harrison-Felix, PhD
Public Contact: 303/789-8565; Fax: 303/789-8441

Project Number: H133A060038
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 06 $625,000; FY 07 $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 coordinat-
ing 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, technolo-
gies, and training among all Model System Data Centers.
Disability and Rehabilitation Research Projects
Colorado

The Rocky Mountain Regional Brain Injury System (RMRBIS)

Craig Hospital
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www.craighospital.org/Research/TBIModelsystems.asp

Principal Investigator: Gale G. Whiteneck, PhD 303/789-8204
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Project Number: H133A070022
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 07 $426,720

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

MedStar/National Rehabilitation Hospital
102 Irving St NW
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www.gmu.edu/departments/chpre/healthpolicy/researchprojects.html

Principal Investigator: Susan E. Palsbo, PhD

Project Number: H133A030804
Start Date: July 01, 2003
Length: 60 months
NIDRR Officer: Ruth Brannon

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; and (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  
Illinois

Health Services Research DRRP on Medical Rehabilitation

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www.ric.org/research/outcomes/drrp.php

Principal Investigator: Allen W. Heinemann, PhD
Public Contact: 312/238-2802; Fax: 312/238-2383

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; FY 07 $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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Principal Investigator: James H. Rimmer, PhD
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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; FY 07 $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 five national disability organizations (Easter Seals, United Cerebral Palsy, Spina Bifida Association, the Arc, and Blaze Sports America).
Disability and Rehabilitation Research Projects
Maryland

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
4940 Eastern Avenue
Baltimore, MD 21224
afu3@jhmi.edu
www.hopkinsmedicine.org/burn/research/index.html
www.hopkinsmedicine.org/burn/research/psqscq.pdf

Principal Investigator: James A. Fauerbach, PhD 410/550-0894
Public Contact: Andi Fu 410/550-9846; Fax: 410/550-8161

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; FY 07 $0 (No-cost extension through 9/30/2008)
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.
Disability and Rehabilitation Research Projects
Maryland

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

Principal Investigator: James A. Fauerbach, PhD 410/550-0894
Public Contact: Andi Fu 410/550-9846; Fax: 410/550-8161

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

Abstract: The Johns Hopkins University-Burn Injury Model System (JHU-BIMS) includes three projects: two site-specific randomized, controlled trials (RCT), and one multi-site collaborative study. The first site-specific project is an RCT to test the efficacy of an innovative “Augmented Exercise Program” in enhancing recovery of strength and endurance in those with generalized deconditioning. Preliminary results demonstrate that this 12-week, 36-session conditioning regimen, relative to baseline and to usual care, significantly improves aerobic conditioning. The second site-specific project is an RCT to test the effectiveness of an intervention entitled “Safety, Meaning, Activation, and Resilience Training” (SMART). SMART is a four-session intervention that aims to reduce acute psychological distress and sleep disturbance and to thereby prevent chronic psychiatric disorders and disability. Pilot data show that SMART effectively reduces post-trauma distress, sleep disturbance and depression. The third project is a multi-site collaborative module entitled “Long-Term Follow-up of the National Database Sample” that extends follow-up to five years post-burn. The NIDRR funded Burn Model System national database provides an unprecedented opportunity to conduct a prospective, multi-site study to assess the long term needs of burn survivors. The Johns Hopkins Burn Center continues to contribute to the Burn Model System national database, as well.
The Spaulding/Partners TBI Model System at Harvard Medical School

Spaulding Rehabilitation Hospital
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spauldingrehab.org/body.cfm?id=185

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; FY 07 $0 (No-cost extension through 9/30/2008)

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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www.semtbis.org

Principal Investigator: Robin A. Hanks, PhD 313/745-9763
Public Contact: Carole Koviak 313/745-9737; 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; FY 07 $0 (No-cost extension through 3/31/2008)

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
Mayo Clinic Traumatic Brain Injury Model System

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Principal Investigator: James F. Malec, PhD
Public Contact: Anne Moessner 507/255-3116; Fax: 507/255-7696

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; FY 07 $0 (No-cost extension through 9/30/2008)

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.
Disability and Rehabilitation Research Projects
Minnesota

Mayo Clinic Traumatic Brain Injury Model System

Mayo Clinic
Mayo Clinic College of Medicine
Mayo Foundation for Medical Education and Research
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Principal Investigator: Allen W. Brown, MD
Public Contact: Anne Moessner 507/255-3116; Fax: 507/255-7696

Project Number: H133A070013
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 07 $423,590

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

JFK Johnson Rehabilitation Institute  
Center for Head Injuries  
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jgiacino@solarishs.org  
www.njrehab.org/tbims/index.asp

**Principal Investigator:** Joseph T. Giacino, PhD  
**Public Contact:** 732/205-1461; Fax: 732/632-1584

**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; FY 07 $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
New Jersey

JFK-Johnson Rehabilitation Institute TBI Model System

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Principal Investigator: Keith D. Cicerone, PhD
Public Contact: 732/906-2640; Fax: 732/906-9241

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

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

Northern New Jersey Traumatic Brain Injury System (NNJTBIS)

Kessler Medical Rehabilitation Research and Education Corporation (KMRREC)
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West Orange, NJ 07052
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Principal Investigator: Elie P. Elovic, MD 973/243-6815
Public Contact: 973/243-2015; Fax: 973/324-3536

Project Number: H133A070037
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 07 $423,590

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

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Principal Investigator: Wayne A. Gordon, PhD
Public Contact: 212/659-9372; Fax: 212/348-5901

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; FY 07 $0 (No-cost extension through 9/30/2008)

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.
New York Traumatic Brain Injury Model System (NYTBIMS)

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Project Number: H133A070033
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 07 $419,921

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

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Charlotte Institute of Rehabilitation
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www.carolinas.org/services/rehab/CIR/brain_system.cfm

Principal Investigator: Flora M. Hammond, MD
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Project Number: H133A070042
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $438,571

Abstract: The Carolinas Traumatic Brain Injury Rehabilitation and Research System (CTBIRRS) is a comprehensive service delivery and research system serving individuals with traumatic brain injury (TBI). The System begins with prevention and emergency medical services and extends through intensive care, acute care, and comprehensive medical rehabilitation to long-term follow-up, community reintegration, and vocational rehabilitation. The research of this Model System focuses on the challenging problem of post-traumatic irritability and aggression using a comprehensive, rigorous approach to generate and disseminate new knowledge on this high impact, pervasive, and under-studied problem. This approach to understanding irritability entails two randomized, controlled studies that build on a solid base of prior research by the investigators in this area: (1) a multi-center module study: “A Multi-center, Parallel-group, Randomized, Double-blind, Placebo-controlled Trial of Amantadine Hydrochloride for the Treatment of Chronic TBI Irritability and Aggression: A Replication Study; “ and (2) a local research study: “Carbamazepine for the Treatment of Chronic Post-TBI Irritability and Aggression: A 42-day Single-site, Forced- titration, Parallel Group, Randomized, Double-blind, Placebo-controlled Trial.” The research studies were developed with in-depth input from the TBI community, with a solid plan for continued input along the course of the project through all aspects including research implementation, interpretation of findings, knowledge translation, project planning, and evaluation. The evaluation plan is directly linked to the target impacts, and provides a list of clear criteria to facilitate project administration, judge success, ensure dissemination of findings, and provide iterative feedback. CTBIRRS utilizes innovative means of knowledge translation to target audiences (consumers, providers, researchers, third party payers, policy makers), including a consumer conference, provider skill packs and workshops, fact sheets, tip cards, surveys of current practices, peer-reviewed publications, scholarly presentations, and evidence-based reviews. The project evaluates target familiarity with the subject matter and product usefulness. The CTBIRRS project collaborates with the Model System Knowledge Translation Center to disseminate materials that integrate our findings within the larger body of research on post-TBI behavioral management.
Disability and Rehabilitation Research Projects
Ohio

Ohio Regional TBI Model System

Ohio Valley Center for Brain Injury Prevention and Rehabilitation
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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; FY 07 $0 (No-cost extension through 12/312007)

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).
Disability and Rehabilitation Research Projects
Ohio

Ohio Regional TBI Model System

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Project Number: H133A070029
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 07 $434,393

Abstract: This project includes one local research project and a collaborative research module. The local project is an extension of two previous randomized clinical trials in which a targeted financial incentive was found efficacious for engaging and retaining persons with traumatic brain injury (TBI) in substance abuse treatment. The current study investigates the efficacy of a financial incentive for engendering attendance at work as persons with TBI and substance use disorders initiate employment. The collaborative research module replicates and extends a preliminary study recently completed at OSU. That project used geographic identifiers to compile data about the social and economic characteristics of a person’s neighborhood. Researchers then examined the contribution of these environmental factors to outcomes from TBI. The current module contributes to an evaluation of the utility of adding a geographic identifier, based on a person’s residence at follow-up, to the TBI Model Systems National Dataset. With this identifier, future Model Systems researchers could access an ever-growing array of information about the environment and link it to Model Systems data about an individual’s outcome. Dissemination efforts include “SynapShots”, an educational website produced with the Brain Injury Association of America, and a systematic review of Screening and Brief Interventions for the Model Systems Knowledge Translation Center.
The Moss Traumatic Brain Injury Model System

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Principal Investigator: Tessa Hart, PhD
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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; FY 07 $0 (No-cost extension through 9/30/2008)

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.
The Moss Traumatic Brain Injury Model System

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Principal Investigator: Tessa Hart, PhD
Public Contact: 215/663-6153; Fax: 215/663-6113

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

Abstract: The Moss TBIMS includes two site-specific research projects embedded within a state-of-the-art traumatic brain injury (TBI) treatment and clinical research facility. Project 1 is a placebo-controlled pilot study of the effects of dextroamphetamine (DEX) on attention, engagement in therapy, cognitive and motor speed, and other outcomes in subacute TBI. This project also examines the possibility that DEX accelerates the pace of functional recovery in the subacute phase. Project 2 is a cross-national collaboration with a specialty TBI service in a Copenhagen hospital, which has many similarities to the Moss TBIMS in terms of patient mix, treatment philosophy, and cultural milieu. The Copenhagen facility provides significantly longer and, in some respects, more intensive inpatient care and rehabilitation compared to Moss (and other US rehabilitation facilities), even for patients with comparable injury severity. This affords a natural experiment in which persons with TBI treated at the two facilities are compared on a range of 6- and 12-month outcomes, including functional status, emotional well-being and quality of life, and caregiver burden. The Moss TBIMS also collaborates in multi-center longitudinal database research and collaborative module projects. In addition, extensive knowledge translation projects provide evidence-based skills and knowledge enhancement for clinicians specializing in TBI care and for consumers via collaboration with the Brain Injury Association of Pennsylvania.
Disability and Rehabilitation Research Projects
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); FY 07 $0 (No-cost extension through 2/28/2008)

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).m
North Texas Burn Rehabilitation Model System (NTBRMS)

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

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

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

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

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

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Project Number: 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; FY 07 $0 (No-cost extension through 9/30/2008)

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.
Pediatric Burn Injury Rehabilitation Model System

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

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

The Texas Traumatic Brain Injury Model System of TIRR

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Project Number: H133A070043
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 07 $430,350

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

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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; FY 07 $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; and (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
Virginia

Virginia Commonwealth Traumatic Brain Injury Model System

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

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

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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; FY 07 $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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Project Number: H133A060107
Start Date: January 01, 2007
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $2,198,213; FY 07 $899,981

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.
Disability and Rehabilitation Research Projects
Washington

University of Washington Burn Model System

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Project Number: H133A070047
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 07 $362,458

Abstract: The University of Washington Burn Model System includes one multi-site, collaborative project, and two site specific projects. Project 1 — Validation of PROs (Patient Report Outcomes) — is a collaborative project that identifies which existing PROs are appropriate for people with burn injuries. There are four accepted steps in the validation of PROs: (1) identification of concepts important to adults with burn injury through focus groups; (2) identification of PROs that include these concepts; (3) evaluation of this set of PROs by a burn expert panel to further select PROs that are applicable to burn injury and not overly burdensome to administer; and (4) administering the selected PROs to people with burn injury to confirm content validity. At the conclusion of this process, a battery of PROs are assembled that are valid for adults with burn injury and that can be used in the future for burn outcome research studies. Project 2 (Site-Specific) — Expanded Delivery Model for Burn Rehabilitation — incorporates a novel intervention, an “expanded care provider,” who enables clinicians to “reach out” to individuals with burn injury and for them to “reach in” to care providers whenever care is needed, rather than on a rigid schedule to determine if this improves burn rehabilitation outcomes. In a randomized trial, Group 1 receives standard outpatient clinic-based rehabilitation. Group 2 has an additional care provider who uses multiple modalities to manage the multifaceted sequelae of thermal injury. Outcomes are assessed using an individualized Goal Attainment Scale and the validated Burn Specific Health Scale. Project 3 (Site Specific) — Identification of the Pathways to Scarring — utilizes bioinformatics tools to identify gene expression pathways associated with hypertrophic scarring.
University of Washington Traumatic Brain Injury Model System

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Project Number: H133A070032
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 07 $430,349

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

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Project Number: H133N060021
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 06 $474,471; FY 07 $474,471

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
Colorado

The Rocky Mountain Regional Spinal Injury System

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Project Number: H133N060005
Start Date: October 01, 2006
Length: 60 months

NIDRR Officer: Kenneth D. Wood, PhD

NIDRR Funding: FY 06 $489,000; FY 07 $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 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: Kenneth D. Wood, PhD
NIDRR Funding: FY 06 $449,417; FY 07 $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.
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; FY 07 $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: (1) Psychological Status During Inpatient Rehabilitation and One Year After Onset: Stress, Coping, and Expectation Hope for Recovery; (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: Kenneth D. Wood, PhD
NIDRR Funding: FY 06 $484,000; FY 07 $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 spinal cord injury (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: Kenneth D. Wood, PhD  
NIDRR Funding: FY 06 $464,417; FY 07 $464,417

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

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; FY 07 $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, Venlafaxine HCI also known as Effexor XR, 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
New Jersey

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; FY 07 $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.
Model Spinal Cord Injury Systems
New York

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; FY 07 $452,541

Abstract: The purpose of this project is to (1) demonstrate and evaluate a multidisciplinary system of rehabilitation care for persons with spinal cord injury (SCI) in the New York City metropolitan area, including innovative programs for community integration; (2) contribute longitudinal data to the SCI National Database; (3) create and evaluate SCI quality of life assessment and participation assessment measures, and collect information on the labor force and economic impacts of SCI; and (4) evaluate the treatment of neuropathic pain using modified-release morphine. The Mount Sinai Spinal Cord Injury Model System (MS-SCI-MS) of the Department of Rehabilitation Medicine of Mount Sinai Medical Center in NYC provides comprehensive care to meet the diverse needs of persons with SCI in its catchment area. There are three major components of the system: (1) comprehensive clinical care, (2) research (site-specific, module projects and contributions to the National Database); and (3) dissemination, education and training. The comprehensive clinical program consists of the following components: (1) The NYC Emergency Medical Service (NYC-EMS), which ensures the early and safe extrication of individuals with SCI from the site of injury. (2) Acute medical/surgical care at EHC or at MSH, both of which provide state-of-the-art emergency and medical/surgical services. (3) Comprehensive inpatient medical rehabilitation services on the 25-bed, CARF-accredited SCI inpatient rehabilitation unit of MSH. The program stresses interdisciplinary care, and employs a primary team model to enhance coordination among caregivers. The research program of MS-SCI-MS is designed to advance the understanding of SCI and its consequences, and to develop better methods of treatment of secondary conditions of SCI, especially pain. 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. In addition, three module projects are executed in collaboration with SCI model systems elsewhere. Dissemination, education and training for individuals with SCI, their families, students and health professionals, constitute the third component of the MS-SCI-MS, and include publications in scientific journals, presentations at national and local meetings, publication of a newsletter for consumers, expanded web-based information, a variety of educational and training programs, including an SCI medicine fellowship, and training of physical medicine and rehabilitation residents from various residency programs.
Northeast Ohio Regional Spinal Cord Injury System

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Project Number: H133N060017
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $449,417; FY 07 $449,417

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.
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; FY 07 $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.
University of Pittsburgh Model Center on Spinal Cord Injury

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Project Number: H133N060019
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $449,417; FY 07 $449,417

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.
Model Spinal Cord Injury Systems  
Texas

Texas Model Spinal Cord Injury System

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Project Number: H133N060003  
Start Date: October 01, 2006  
Length: 60 months  
NIDRR Officer: Theresa San Agustin, MD  
NIDRR Funding: FY 06 $464,417; FY 07 $464,417

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 percent of patients. These complications include hydronephrosis, vesicoureteral reflux, nephrolithiasis, sepsis, renal insufficiency or failure, and even death. This investigation is intended to determine if the prevention of DESD in the early phase of recovery can prevent some of these complications. In addition, the TMSCIS includes a module designed to develop an outcome measure of trunk and postural control to be utilized in activity-based therapy programs like locomotor training. The outcomes of large scale clinical trials of locomotor training highlight the need for outcome measures that are designed to capture changes brought about by translational research that may not have been necessary for more traditional therapy programs. This scale development project incorporates item response theory methods as well as reliability and validity investigations in a minimum of four model systems.
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 Agustin, MD
NIDRR Funding: FY 06 $464,417; FY 07 $464,417

Abstract: The University of Washington’s Northwest Regional Spinal Cord Injury System (NWRSCIS) serves a critical mass of patients with spinal cord injury (SCI) and has all the necessary disciplines to provide state-of-the-art medical, surgical, and rehabilitation care. One site-specific project is a randomized controlled intervention study evaluating the effect of proactive, structured, telephone-based counseling and care management on rehospitalization rate and quality of life during the first year after discharge from acute rehabilitation. This study builds upon successful experiences with telephone counseling for both people with traumatic brain injury and multiple sclerosis. This research is particularly important because the lifestyle changes and health care behaviors required for successful living after SCI are tremendously challenging, rates of rehospitalization are high, and many people (especially in rural regions) lack ready access to knowledgeable advice, behavior change support, and specialty care sufficient to maintain their health. A modular project studies the natural history of major depression under conditions of usual care during the first year after SCI. This project establishes reliable and valid means of screening and diagnosing major depression soon after SCI. It examines the impact of depression on rehabilitation efficiency and compares the effect of standard treatment to clinical practice guideline level care of depression. This study describes depression treatment preferences among people with SCI and lays the foundation for a multi-site clinical trial. 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; FY 07 $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.
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); FY 07 $0 (No-cost extension through 6/30/2008)

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); FY 07 $0 (No-cost extension through 7/31/2008)

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.
Field Initiated Projects (FIPs)
District of Columbia

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; FY 07 $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.
Field Initiated Projects (FIPs)
Florida

Investigating the Effects of Snoezelen in Children Recovering from Severe Brain Injury

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Project Number: H133G070119
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 07 $197,907

Abstract: This research study examines a novel therapeutic approach referred to as snoezelen or controlled multisensory therapy for children with severe traumatic brain injury (TBI). The snoezelen approach is based on a theoretical framework of using a controlled multisensory environment which promotes stimulation of the primary senses which include auditory, visual, olfactory, tactile, and gustatory systems which are impaired in the early stages of recovery. There is evidence that snoezelen has been shown to find a balance between relaxation and activity or changing arousal within the framework of a safe, controlled, adapted environment. The purpose of this study is to investigate the effects of snoezelen therapy on physiological, cognitive, and behavioral changes in children recovering from severe TBI. Seventy-two subjects from 5-18 years of age recovering from severe TBI are studied in a prospective randomized controlled trial. The treatment group that receives up to 20 snoezelen treatment sessions is compared to a control group that receives up to 20 playroom sessions, with both groups receiving a standard comprehensive neurorehabilitation program in an inpatient pediatric rehabilitation unit. Specific physiological, cognitive, and behavioral outcome measures are collected and evaluated at baseline, and pre- and post- snoezelen and playroom treatment sessions.
Biopsychosocial Factors that Predict TBI Post-Acute Rehabilitation Outcomes

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Project Number: H133G070171
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $192,500

Abstract: This project develops models using biopsychosocial factors assessed during the initial days of traumatic brain injury (TBI) post-acute rehabilitation to predict good, fair, and poor post-acute rehabilitation discharge outcomes. Empirically derived biopsychosocial models improve understanding of TBI recovery, identify patients at risk for poor outcomes, inform individualized treatment planning, and increase the overall efficiency and efficacy of post-acute rehabilitation services. Clinical measures of motor and cognitive functioning are analyzed, and five experimental measures are administered to assess potential psychosocial and environmental risk factors for clients with TBI. The primary goals are to produce probabilistic and tree based models of biopsychosocial factors that predict good, fair, or poor TBI post-acute rehabilitation outcomes with regard to: (1) physical and cognitive improvement; (2) independent living (no supervision required); and (3) community participation. Primary dissemination efforts include at least two peer-reviewed manuscripts that describe predictive models for clinical use, and development of an automated post-acute rehabilitation admission assessment protocol, made available for downloading from the Shepherd Center website. The long-term goal is to design and test interventions for treatable predictors of post-acute rehabilitation outcomes and establish evidence-based guidelines.
**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; FY 07 $146,280

**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; FY 07 $146,179

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.
Augmenting Language Therapy for Aphasia: A Randomized Double-Blind Placebo-Controlled Trial of Levodopa in Combination with Speech-Language Therapy

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Project Number: H133G070074
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $199,843

Abstract: This randomized, double-blind placebo, controlled clinical trial evaluates the effect of the pharmacologic agent, levodopa, in combination with speech-language treatment, on the language outcome of patients with chronic, nonfluent aphasia. There is preliminary evidence that increased levels of dopamine, in combination with language treatment, may improve the language deficits of aphasia following stroke. Most studies have investigated the adjunctive effects of bromocriptine, a dopamine agonist that acts on postsynaptic dopamine receptors, changing the tonic state of dopamine neurons. However, new evidence is suggesting that levodopa, a precursor to dopamine, may be preferred since it has the potential to increase the presynaptic availability of dopamine, thereby enhancing phasic dopamine signals which are important for learning enhancement. Accordingly, the specific aims of this clinical trial are to assess whether: (1) levodopa in combination with speech-language therapy improves language performance; (2) levodopa in combination with speech-language therapy improves language performance more than speech-language therapy alone; and (3) improvements in language performance resulting from combined levodopa and speech-language therapy are maintained over time to a greater extent than improvements resulting from speech-language therapy alone. The intervention, which serves as the behavioral treatment platform on which to assess the adjunctive effects of levodopa, is administered via computer and involves repeated choral reading of sentences. Subjects receive five hours of the speech-language therapy intervention weekly plus the levodopa or placebo for six weeks. The primary outcome measure is the change in the Aphasia Quotient (AQ) score on the Western Aphasia Battery from pre-treatment to post-treatment. Other language, cognitive, and communication measures are collected pre- and post-treatment and at six weeks after completion of treatment.
Field Initiated Projects (FIPs)
Illinois

Effectiveness of a Teleconference Fatigue Management Program for People with Multiple Sclerosis

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Project Number: H133G070006
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 07 $143,836

Abstract: This project tests the effectiveness and efficacy of a teleconference energy conservation education program for people with multiple sclerosis (MS). The project is guided by self-efficacy theory and builds on existing pilot work. The program is delivered by teleconference by a licensed occupational therapist. Participants are provided with a telephone and headset, and a program manual. On the designated days, participants call a toll-free phone number and participate in an educational group session facilitated by the therapist. A total of six one-hour weekly sessions use the program materials developed through the pilot study. Measures of the primary and secondary outcomes are administered over the telephone by a research assistant before and after the program, at three months, and at six months. By collecting data at these points and having a wait-list control group, the project is able to test whether: (1) individuals in the immediate intervention group achieve better outcomes than individuals in the wait-list control group; (2) the program leads to significant reductions in fatigue impact and fatigue severity, and improved quality of life; and (3) improvements in the outcomes can be maintained over six months. Analyses involve t- tests and mixed effects regression models. The primary goals of the project are to reduce the impact of fatigue on participants’ everyday lives, reduce fatigue severity, and improve quality of life. Secondary goals are to increase self-efficacy for managing fatigue and increase the number of energy conservation strategies used.
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; FY 07 $0 (No-cost extension through 4/30/2008)

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

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: Joyce Y. Caldwell
NIDRR Funding: FY 05 $148,810; FY 06 $148,221; FY 07 $149,933

Abstract: This project implements a eight-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 five 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.
Adapted Assessment of Speed of Information Processing in Children with Cerebral Palsy

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Project Number: H133G070044
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $199,995

Abstract: This project develops an accessible assessment of processing speed that allows sensitive measurements of cognitive capabilities in children with severe motor and communicative impairments. The objective is to examine processing speed in children with cerebral palsy by utilizing inspection time as a measure of speed of visualization. Specific aims are: (1) to examine psychometric properties, including reliability, concurrent validity, and criterion-related validity of a modified inspection time task, and (2) to compare the inspection time profiles within and between groups using the traditional and modified inspection time task procedures. Processing speed is associated with development of critical cognitive functions including working memory and fluid intelligence, and is sensitive to brain dysfunction, medication effects, and aging.
Field Initiated Projects (FIPs)
Michigan

Pathways to Depression: An Examination of Vulnerability and Stress in Adults with Spinal Cord Injury

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Project Number: H133G070020
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $199,999

Abstract: This project presents and tests a model (Pathways to Depression after Spinal Cord Injury [SCI]) of vulnerability factors interacting with current stressors (stressful life events and poor social support) to increase risk of depression and its adverse effects on community participation in adults with spinal cord injury. Depression after SCI is one of the most pervasive psychological conditions, occurring at rates exceeding the general population, and has the potential to substantially limit independence, compromise health and well-being, and increase risk for suicide. While many studies in the extant literature have examined injury and situational factors as correlates of depression, very few have examined other vulnerability factors that precede injury placing certain individuals at higher risk for depression post-injury. A deeper understanding of factors that predispose some individuals to depression after injury can inform treatment approaches and improve community participation impeded by depression. Using a cross sectional design and survey methodology (written and telephone interview), the project surveys 400 individuals with SCI about early life experience, psychological and substance abuse history (prior to injury), current stressful life events and social support, depression, and community participation. DNA samples are also collected to test for a polymorphism of the serotonin transporter known to interact with stress to increase risk of depression. Structural equation modeling is used to test the Pathways model of vulnerability factors.
Development of an Intelligently Controlled Assistive Rehabilitation Elliptical (ICARE) Training System to Promote Walking and Fitness in Persons with Physical Limitations

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Project Number: H133G070209
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 07 $199,524

Abstract: The goal of this project is to develop ICARE, an Intelligently Controlled Assistive Rehabilitation Elliptical trainer and therapeutic program to help individuals with physical or mobility disabilities regain and/or retain their walking ability and physical fitness. Specifically, the project develops, refines, and field-tests a prototype ICARE trainer. It includes an affordable, intelligent control system that adapts the movement pattern of the elliptical trainer to the unique physical assistance needs of individuals as they relearn to walk and exercise. The specific objectives of this project which address this goal are to: (1) identify the best commercially available elliptical trainer to redesign into an Intelligently Controlled Assistive Rehabilitation Elliptical (ICARE) trainer; (2) develop, pilot test, and refine a prototype ICARE device in a controlled (laboratory) environment to improve function, features, beneficial therapeutic effects for walking, and equipment durability; and (3) implement usage of the ICARE system in three free-living environments (an inpatient rehabilitation center, outpatient neurologic and orthopaedic clinic, and a community-based fitness facility) to evaluate the capacity of the device to improve walking ability and cardiovascular function of persons with varied gait dysfunctions and develop a therapeutic intervention program using the device.
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; FY 07 $0 (No-cost extension through 11/30/2008)

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.
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; FY 07 $149,967

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.
Field Initiated Projects (FIPs)  
New Jersey

Quality of Life in Traumatic Brain Injury Research and Practice:  
Development of the TBI-QOL

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Project Number: H133G070138
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Phillip Beatty
NIDRR Funding: FY 07 $199,830

Abstract: The scarcity of quality of life (QOL) measurement tools specific to traumatic brain injury (TBI) hinders the efforts of TBI intervention researchers, whose goal is to obtain valid and useful data to evaluate new treatment approaches. The goals of this study are to: (1) develop an instrument for comprehensively assessing the health-related quality of life (HRQOL) of persons with TBI, regardless of the severity of their condition; (2) enable comparisons of HRQOL in TBI with HRQOL in other neurologic conditions by integrating this instrument with the Neuro-QOL project; and (3) investigate and develop strategies for determining the HRQOL of individuals with even the most severe TBI, thus ensuring that these individuals will be represented in initiatives that use this instrument, rather than excluded as is often the case due to the difficulty of assessing such persons.
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; FY 07 $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.
Field Initiated Projects (FIPs)
Oregon

INSIGHT-WPD: Development of a Cognitive Behavioral Therapy Intervention for Women with Physical Activity Limitations who Experience Depression

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Project Number: H133G070214
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 07 $198,701

Abstract: This project addresses the need for efficacious, relevant, and accessible, consumer-run services for women with physical disabilities (WPD) who experience secondary depression. Rates of depression and suicide in WPD are up to five times higher than in the general population. Despite this disparity, few intervention studies that address the specific needs of WPD are available. Therefore, the specific aims of the project are to: (1) modify an existing cognitive behavioral group therapy intervention to address the specific needs of WPD who experience depressive symptoms; and (2) pilot-test the intervention to preliminarily evaluate its efficacy with a total of 90 participants using a using a wait list control design. Because the intervention is peer implemented and, if proven efficacious, intended for use by Centers for Independent Living, this project is community-based, participatory, and collaborative. Strong collaboration with WPD in the community and two Centers for Independent Living in Oregon are integral to the study design.
Field Initiated Projects (FIPs)
Pennsylvania

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; FY 07 $149,952

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.
Treatment Components and Active Ingredients in a Scheduled Telephone Intervention for Traumatic Brain Injury

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Project Number: H133G070143
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $199,880

Abstract: This project studies the treatment components and active ingredients of an intervention for post-acute, moderate and severe traumatic brain injury (TBI) known as Scheduled Telephone Intervention (STI). The STI was designed to help meet the multiple, evolving needs of people with TBI and their families following rehabilitation hospital discharge, and consists of telephone calls placed by a specially trained counselor at scheduled, gradually increasing intervals (seven calls in the first year post TBI). Using a theoretically motivated model of candidate active ingredients in three classes: treatment elements common to many interpersonal interventions (e.g., therapeutic alliance), treatment elements related to goal self-management/ executive function theories, and modifier variables such as total dose of treatment, the project analyzes the treatment components of the STI by coding archived, audiotaped treatment sessions (calls) from 175 participants in the treatment arm of the multicenter randomized controlled trial on the STI. This project: (1) develops an objective, reliable scoring system for measuring these treatment components; (2) characterizes relationships among pre-treatment participant characteristics (e.g., level of disability) and the treatment components delivered during a one-year course of STI; (3) examines the longitudinal trends in treatment components during one year of treatment; and (4) estimates the “activity” of various ingredients by examining the relationships among treatment components and one-year outcomes, accounting for the direct effects of baseline status on both treatment process and outcomes.
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; FY 07 $149,927

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.
Field Initiated Projects (FIPs)
Pennsylvania

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: Shelley Reeves
NIDRR Funding: FY 06 $149,593; FY 07 $149,819

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 percent 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.
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); FY 07 $0 (No-cost extension through 3/31/2008)
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; FY 07 $149,997  
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; FY 07 $149,987

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; FY 07 $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.
Effect of a Group Cognitive-Behavioral Intervention for Depression after TBI and Factors that Affect Response to Treatment

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Project Number: H133G070222
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $197,754

Abstract: This project is designed to evaluate the effectiveness of a group cognitive behavioral intervention (CBT group) for treating depressive symptoms in persons with traumatic brain injury (TBI), to assess the impact of cognitive impairments on an individual’s response to the CBT group, and to assess the impact of the CBT group on community participation and subjective well-being in persons with TBI. The initial phase of this study involves utilizing input from consumer and expert advisors to develop an approach and to adapt materials for use with persons with cognitive impairments. Once adapted, the intervention is piloted with a group of five individuals with at least mild symptoms of depression. After the pilot phase, a randomized, attention controlled clinical trial follows. Cognitive-behavioral approaches to treatment of depression have been demonstrated to have effectiveness in many populations, including a growing body of evidence for effectiveness in persons with other types of acquired brain injury. Given the inherent structure that such approaches utilize, which may help minimize cognitive demands, cognitive behavioral therapy would appear well-suited to use with persons with TBI.
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; FY 07 $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.
Telephone and In-Person Cognitive Behavioral Therapy for Depression After Traumatic Brain Injury

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Project Number: H133G070016
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 07 $199,873

Abstract: This project continues previous efforts to establish evidence-based treatments for major depressive disorder (MDD) in people with traumatic brain injury (TBI). MDD is the most common psychiatric disorder among TBI survivors and has widespread negative effects on health and functional outcomes in people with TBI. This three armed randomized controlled trial compares (1) in-person cognitive behavioral therapy for depression that is adapted for people with TBI (CBT-TBI) and (2) telephone-based CBT-TBI to a (3) usual depression care condition (UC). Previous research found that people with TBI and depression are highly interested in using psychotherapy to treat depression. Although psychotherapy is widely used in the treatment of general psychological aspects of TBI, solid evidence for the efficacy of psychotherapy for MDD in this population is absent. While CBT is the most evidence-based psychotherapy available for MDD, thus far there is only expert opinion to guide how CBT should be adapted for people with TBI (i.e., to accommodate patients with neurocognitive and neurobehavioral impairments). Therefore, this study adapts CBT specifically for people with TBI (CBT-TBI) in a three arm trial and measures the feasibility, acceptability, and potential effectiveness of this adapted intervention in both telephone-administered and in-person formats, compared with Usual Care. The long-term goal of this research is to develop a feasible and effective manualized psychotherapy intervention to treat major depressive disorder in persons with TBI that is applicable across a wide array of settings.
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; FY 07 $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.
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; FY 07 $149,772

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.
Field Initiated Projects (FIPs)
Wisconsin

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; FY 07 $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.
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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Rehabilitation Engineering Research Centers (RERCs)
California

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; FY 07 $0 (No-cost extension through 10/31/2008)

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 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; FY 07 $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-f 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 Centre 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; FY 07 $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: Bonnie Gracer
NIDRR Funding: FY 03 $949,999; FY 04 $949,024; FY 05 $949,480; FY 06 $949,998; FY 07 $949,999

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 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; FY 07 $0 (No-cost extension through 3/31/2008)

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 for 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 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; FY 07 $949,979

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; FY 07 $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 Centers (RERCs)

Georgia

Rehabilitation Engineering Research Center on Workplace Accommodations

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Project Number: H133E070026
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 07 $949,999

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

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

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Project Number: 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; FY 07 $0 (No-cost extension through 4/30/2008)

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 Rehabilitation Engineering Research Center (MARS-RERC)

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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; FY 07 $0 (No-cost extension through 1/31/2008)

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; FY 07 $949,999

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 transfemoral 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; FY 07 $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 Recreational Technologies and Exercise Physiology Benefiting Persons with Disabilities (RERC RecTech)

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

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

RERC on Rehabilitation Robotics and Telemanipulation Machines
Assisting Recovery from Stroke Rehabilitation Engineering Research Center (MARS-RERC)

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Project Number: H133E070013
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 07 $949,775

Abstract: This project designs and implements a program of research and development, centered on the
use of robots for restoration of function in hemispheric stroke survivors. The focus is on the application of
new approaches that improve functional outcomes of the entire body during either upper extremity reach-
and-grasp activities or full body locomotion activities. Stroke is the most common neurological disorder
requiring intensive and prolonged rehabilitation, and the problems of stroke recovery rehabilitation are quite
different from those faced in other major neurological disorders, such as spinal cord injury or traumatic brain
injury. In particular, the rehabilitation needs associated with lateralized motor and sensory impairment in an
elderly population with concurrent cardiovascular illnesses are quite distinct, and raise unique questions
about therapeutic goals and societal impact. Accordingly, the broad objective is to develop devices that
assist the therapist in providing rationally based, intensive, and long duration stroke treatments. Such devices
also monitor progress, and help to improve the functional performance of stroke survivors, with the intent
that there is a greater likelihood of their return to community and to work.
Rehabilitation Engineering Research Centers (RERCs)
Michigan

Rehabilitation Engineering Research Center on Wheelchair Transportation Safety

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Principal Investigator: Lawrence W. Schneider, PhD (Michigan); Patricia Karg, MS (Pittsburgh); Gina Bertocci, PhD (Louisville); 734/936-1103 (Schneider)
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Project Number: H133E060064
Start Date: November 01, 2006
Length: 60 months
NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 06 $899,753; FY 07 $899,708

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 Center on Children with Orthopedic Disabilities

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Principal Investigator: Richard A. Foulds, PhD
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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; FY 07 $949,266
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; FY 07 $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; FY 07 $949,999

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 Centers (RERCs)
North Carolina

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; FY 07 $949,974

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.
National Center for Accessible Public Transportation

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Principal Investigator: Katharine Hunter-Zaworski, PhD
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Project Number: H133E030009
Start Date: October 01, 2003
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 03 $949,479; FY 04 $949,259; FY 05 $949,044; FY 06 $949,260; FY 07 $949,659

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 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 Center on Telerehabilitation

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Project Number: H133E040012
Start Date: December 01, 2004
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 04 $849,890; FY 05 $849,930; FY 06 $849,922; FY 07 $849,991

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)  
Pennsylvania

Rehabilitation Engineering Research Center on Spinal Cord Injury

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Project Number: H133E070024  
Start Date: October 01, 2007  
Length: 60 months

NIDRR Officer: Theresa San Agustin, MD  
NIDRR Funding: FY 07 $949,999

Abstract: This center conducts research, development, and evaluation of innovative technologies and approaches that will improve the treatment, rehabilitation, employment, and reintegration into society of persons with spinal cord injury (SCI). Research and development activities address tissue integrity management, upper extremity musculoskeletal injury prevention, and bladder function. Specific projects address: (1) the development of computational models of inflammation and healing for assessment of person-specific interventions and for general technology/intervention evaluations for pressure ulcer prevention and detection, (2) evaluation of the effects of support surface active cooling and low shear followed by development and evaluation of a novel seat cushion incorporating these features, (3) the development and evaluation of tools for manual wheelchair propulsion training, (4) the evaluation of novel manual wheelchair propulsion devices for preventing shoulder injury, (5) the evaluation of a weight shifting approach for preventing pressure ulcers, and (6) the development of preliminary computational models of inflammation and healing for evaluating bladder function and musculoskeletal injury status. The research team and collaborators include the Departments of Rehabilitation Science and Technology, the Department of Physical Medicine and Rehabilitation, the McGowan Institute for Regenerative Medicine, and the Department of Occupational Therapy at the University of Pittsburgh plus Case Western Reserve University, Northwestern University, Baylor College of Medicine, IBM, and Immunetrics. The technology transfer program targets private and public sectors. The training and knowledge translation plan is equally broad based, targeting graduate and undergraduate students, practicing clinicians, researchers, and individuals with SCI and their caregivers.
Rehabilitation Engineering Research Centers (RERCs)
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; FY 07 $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 Centers (RERCs)
Wisconsin

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; FY 07 $850,000

Abstract: The primary mission of the Telecommunications Access RERC is to advance 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.). The RERC looks at advances that have both short- and long-term outcomes related to assistive technologies (AT), interoperability, and universal design of telecommunications. The RERC encompasses research and development programs, as well as training, technical assistance, and dissemination activities. A large part of the RERC’s research and development program is directly related to the rapidly emerging Voice over IP (VoIP) technologies and other IP-based systems. The goal is to help ensure that these new technologies are accessible and usable by people with hearing impairments, blindness, and other disabilities. The research and development program of this RERC covers three areas: (1) Development of tools, techniques, and performance-based measures that can be used to evaluate current and evolving telecommunication technologies. Included in this area are two projects to define the essential audio and video characteristics of IP telecommunication needed to support sign language, video relay interpreting, IP based speech, and lipreading. (2) Solving the problems faced by individuals using hearing aids or cochlear implants with digital phones. Three projects cover both digital cellular and home cordless phones, and are focused on quantifying the problem, identifying solutions, providing tools that users can employ to match appropriate hearing technologies with telecommunication technologies, and helping to test and validate interference standards. (3) Improving access to emerging telecommunications - particularly digital and IP based systems. Projects in this area will: (a) Identify techniques to alert people about possible emergencies and to ensure accessible communication in emergency or crisis situations; (b) seek solutions for the current incompatibility issues around text communications and ways to build the necessary capabilities into main-
stream technologies, to allow them to evolve to new text, speech, and visual communication technologies. (This will enable individuals who are deaf or have speech impairments to communicate over the mainstream technologies in whatever mode or modality works best for them.); and (c) develop guidelines and reference materials to help mainstream telecommunications manufacturers build their regular products in a way that allows individuals with visual, hearing, physical, and cognitive disabilities to be able to use them. The goals of the RERC’s training, technical assistance, and dissemination activities are: To increase the number and level of expertise of people working to make standard telecommunication systems and products accessible and usable for people who have disabilities or who are aging; to move ideas and concepts out into the field in the form of standards or commercial products; and to provide useful information from our research to the telecommunications industry, consumers, and policymakers.
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; FY 07 $0 (No-cost extension through 9/30/2008)

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.
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; FY 07 $449,954

**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.
Assistive Technology in the Community

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Project Number: H133A010701
Start Date: January 01, 2002
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 01 $300,000; FY 02 $300,000; FY 03 $300,000; FY 04 $300,000; FY 05 $300,000; FY 07 $0 (No-cost extension through 12/31/2007)
Abstract: This project promotes AT as a means of increasing participation in major life activities by people with disabilities. Project activities include: (1) assessing the use, disuse, injury, and effects that AT has on the participation of people with disabilities in major life activities, to determine what technologies are of the most benefit in community settings; (2) implementing a community-based AT program in collaboration with Paraquad, a nationally recognized Center for Independent Living, to improve the satisfaction of participants in their self-chosen life activities; (3) educating consumers, independent living staff, educators, health care professionals, AT industry leaders, and public policy-makers about the influence AT has on major life activities.
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.
Disability and Rehabilitation Research Projects
Ohio

Assistive Technology and Cognitive Disabilities

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Principal Investigator: Roberta DePompei, PhD
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Project Number: H133A030810
Start Date: November 01, 2003
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 03 $375,132; FY 04 $299,349; FY 05 $299,947; FY 07 $0 (No-cost extension through 6/30/2008)

Abstract: This project assesses the use of several types of information technologies by children and adults with cognitive disabilities, specifically individuals with TBI and mental retardation. Outcomes include: (1) a catalog of existing portable devices for memory and organization, (2) a list of features that enhance or inhibit use of these general purpose and special-use technologies, (3) results of needs surveys regarding use of these technologies, (4) white papers describing project findings, (5) tip cards to assist families in purchasing devices, (6) stronger partnerships between the consumer and research and development communities, and (7) recommendations for memory and organization device modifications and features for individuals with brain injury and mental retardation. The Brain Injury Association, Inc. leads and administers this collaborative partnership, which includes the Traumatic Brain Injury Model Systems Projects at Moss Rehabilitation Research Institute and Spaulding Rehabilitation Hospital, the Institute on Disabilities/Center for Excellence on Developmental Disabilities at Temple University, and the University of Akron.
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; FY 07 $0 (No-cost extension through 12/31/2008)

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.
Disability and Rehabilitation Research Projects
Washington

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; FY 07 $299,964

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.
Field Initiated Projects (FIPs)
California

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

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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; FY 07 $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: H133G060035
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 06 $149,435; FY 07 $149,801

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)
District of Columbia

Smart Over-Ground Body-Weight Support Gait Training System

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Principal Investigator: Joseph M. Hidler, PhD
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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; FY 07 $149,946

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 training. 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.
Accessible Digital Radio Broadcast Services

National Public Radio
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Principal Investigator: Mike Starling
Public Contact: 202/513-2484; Fax: 202/513-3024

Project Number: H133G060187
Start Date: October 01, 2006
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 06 $150,000; FY 07 $150,000
Other Funding: FY 07 $25,000 Harris Corporation

Abstract: In this project, National Public Radio (NPR) and its partners 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 its partners 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: Bonnie Gracer
NIDRR Funding: FY 06 $146,562; FY 07 $149,533

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)
District of Columbia

Personal Audio Information Service

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Project Number: H133G070093
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 07 $200,000

Abstract: This project defines and demonstrates a Personal Audio Information Service (PAIS) - a new mainstream system that expands the lifeline services currently offered to people with visual impairments through audio information services (AIS) by automatically assembling a selection of locally relevant, customized audio content from current AIS broadcasts. The PAIS system combines the established framework of audio information services with the new programming flexibility that is afforded by HD Radio (the new FCC standard for digital radio broadcasting), creating a powerful on-demand radio system that will substantially improve media access for millions of American consumers with print disabilities. The project: (1) develops efficient audio interfaces for selecting, navigating, and listening to content; (2) develops effective systems for tagging, subdividing, and collecting topic-based content; (3) develops and demonstrates a full scale PAIS system in a real world broadcast pilot; and (4) documents and publishes recommended best operating practices for audio information service providers and consumer electronics manufacturers to fully deploy PAIS technologies.
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; FY 07 $0 (No-cost extension through 5/31/2008)

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.
Workplace Accommodation Wizard: An Assessment and Accommodation Tool for Employers

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Project Number: H133G070063
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 07 $196,460

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

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; FY 07 $0 (No-cost extension through 9/30/2008)

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; FY 07 $149,964
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; FY 07 $145,529

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.
Field Initiated Projects (FIPs)
Illinois

Overcoming Gravity Induced Arm and Hand Dysfunction to Restore Functional Reaching Following Stroke

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Project Number: H133G070089
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 07 $195,867

Abstract: This study uses a 3-D force-controlled robot to test whether electrical stimulation of extensor muscles can overcome the associated abnormal flexor activity of the elbow, wrist, and fingers during reaching under progressively larger gravitational loads. Furthermore, if indeed wrist and finger flexors can be overpowered, this study determines if a multi-electrode array can be implemented to selectively stimulate wrist extensors independently of finger extensors during the same reaching conditions. Selective stimulation, if successful, would increase the functional repertoire of the hand and enhance the quality of life of stroke survivors. To support the fundamental premise that abnormal flexor activity exists in individuals with stroke, the project measures the progressive increase in abnormal wrist and finger flexion associated with supporting increasing amounts of the upper limb’s weight. This is accomplished by using a 3-D force-controlled robot to virtually manipulate the amount of gravity experienced during reaching in 45 chronic stroke survivors (aim 1). Next, the project quantifies the impact of electrical stimulation of the elbow, wrist, and finger extensors on elbow, wrist, and finger extension range of motion when progressively increasing the weight of the paretic limb with the robot during reaching (aim 2). Finally, the project investigates the application of an existing multi-electrode stimulation array to determine if wrist and finger extensors can be selectively stimulated (aim 3).
**Field Initiated Projects (FIPs)**

**Maryland**

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**Optimized Hands-Free Speech Recognition**

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**Project Number:** H133G050354  
**Start Date:** December 01, 2005  
**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH  
**NIDRR Funding:** FY 05 $149,882; FY 06 $149,997; FY 07 $149,774

**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 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; FY 07 $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; FY 07 $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; and (5) promote review of demonstration model and proposed specifications through dissemination and high-profile demonstrations within industry, government, and the disability community.
Field Initiated Projects (FIPs)
Massachusetts

Captioning Solutions for Handheld Media and Mobile Devices
Development

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Project Number: H133G070122
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 07 $200,000

Abstract: This project explores barriers to portable media for deaf and hard-of-hearing users and develops captioning solutions that serve as models for the mobile media and technology industries and for public policy developers. The project team identifies, tests, and prototypes required accessibility changes in mobile media production tools, formats, transport mechanisms, and display technologies. Prototypes model technical solutions for packaging, compression, identification, retrieval, download, processing, and porting of captioned video to portable devices. Prototypes also model mobile caption display options and explore customization capabilities. Consumers who are deaf or hard-of-hearing participate in end-user testing to evaluate the usability of project solutions. Project deliverables include: (1) prototypes that model multiple methods of creating, distributing, downloading, and displaying captioned content on handheld devices; (2) publication of usability research on accessible interface and caption display options; and (3) comprehensive functional requirements that detail production processes and software and hardware enhancements required for content creators, service providers, and third party tool developers to create and transcode captions and caption feature sets and capabilities required for open as well as proprietary mobile media formats and device-specific players to render captions.
Field Initiated Projects (FIPs)
Massachusetts

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: Joyce Y. Caldwell
NIDRR Funding: FY 06 $68,869; FY 07 $51,122

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 York

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

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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; FY 07 $0 (No-cost extension through 10/31/2008)
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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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; FY 07 $149,953

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.
Micromachined Braille Reader

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Project Number: H133G070135
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 07 $199,446

Abstract: This project develops a low-cost, portable Braille display utilizing Polyvinylidene Floride (PVDF), an electro-active polymer, to create a novel, low-power, low-voltage bistable actuator. The dots in this display are produced with more force and easier to read. By using PVDF and silicon micromachining techniques, there is the potential for each Braille cell to cost $5 or less, as compared to about $35 for the current commercial offerings. This display should use less power, be cheaper to make, require a lower actuation voltage (thus reducing the size and cost of the control electronics), and be easier to scale to more letters than other current prototypes.
Universal Design of Tactile Exhibits with Touch Activated Descriptive Audio for Aquariums

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Principal Investigator: Rebecca Fuller
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Project Number: H133G060284
Start Date: October 01, 2006
Length: 36 months
NIDRR Officer: Edna Johnson

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: Joyce Y. Caldwell
NIDRR Funding: FY 05 $149,936; FY 06 $149,980; FY 07 $149,775

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.
Online Communication Assessment to Improve Outcomes for Individuals with Severe Disabilities

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Project Number: H133G070129  
Start Date: October 01, 2007  
Length: 36 months  
NIDRR Officer: Bonnie Gracer  
NIDRR Funding: FY 07 $200,000

Abstract: This project adapts, refines, evaluates, and markets an innovative technological online tool designed to provide appropriate assessment of communication skills for individuals with severe disabilities. The novel tool harnesses the potential of an online communication assessment protocol to achieve immediate and meaningful individual-level outcomes in the form of cost effective and appropriate assessment, generation of appropriate educational and therapeutic goals, and monitoring of progress. The online tool is a prototype online assessment tool for evaluating the communication skills of individuals at the earliest stages of communication and is based on the valid and reliable Communication Matrix. The new tool is designed to be used by caregivers and professionals. This project involves the adaptation, improvement, and expansion of this website to increase its usability and educational utility, including alpha and beta testing and four major evaluation studies.
Field Initiated Projects (FIPs)
Tennessee

Appropriate Directional Hearing Aid Switching in School Age Children

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Project Number: H133G060012
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: Ruth Brannon
NIDRR Funding: FY 06 $150,000; FY 07 $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 of 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).
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; FY 07 $149,928

**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.
Development of Dynamic Pedorthosis for Improving Clubfoot Correction

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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; FY 07 $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; FY 07 $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.
Small Business Innovation Research (SBIR), Phase I
Colorado

ATLAS: An Accessible Testing and Assessment System for Individuals with Intellectual Disabilities to Facilitate Inclusion and Access to the General Curriculum

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Project Number: H133S070010
Start Date: October 01, 2007
Length: 6 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 07 $74,998

Abstract: This project develops and evaluates the Accessible Testing, Learning, and Assessment System (ATLAS), a testing and assessment system which can be used by teachers and evaluators to create independently accessible, self-paced tests and evaluations for students and adults with intellectual disabilities. The tests and evaluations can be completed by the individual in a self-directed manner using a personal digital assistant (PDA) computer device. The ATLAS system is designed to support a variety of response formats typically found in question and answer testing including: true/false, multiple choice, or variations such as yes/no/sometimes. This project allows individuals with intellectual disabilities to independently participate in assessment activities in an integrated environment.
Development and Evaluation of Geo Talk: A GF Supported Portable Speech Output Device for Individuals with Intellectual Disabilities

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Project Number: H133S070005
Start Date: October 01, 2007
Length: 6 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $74,998

Abstract: This project demonstrates the technical merit and feasibility of the GeoTalk approach for providing independent access to speech output functionality for individuals with intellectual disabilities with speech impairments. This is accomplished through a field evaluation of the GeoTalk prototype, and two additional, commonly used augmentative communication systems in a pilot study to determine the ease of use, error rate, and quality of the user’s experience. Project goals include: (1) conducting research, (2) developing a system prototype, (3) evaluating the efficacy of the universal design approach in creating a palmtop computer-based speech output system which incorporates a linear operational design approach (i.e. no layering of messages), and (4) creating a palmtop computer which uses Global Positioning System technology to automatically load context-relevant speech output arrays based upon geographical location.
Small Business Innovation Research (SBIR), Phase I
Colorado

Visual Media Literacy System Enabling Individuals with Intellectual Disabilities to Independently Access Electronic Media for Learning and Recreation

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Project Number: H133S070017
Start Date: October 01, 2007
Length: 6 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $75,000

Abstract: This project develops and tests the Visual Media Literacy System, an accessible software system with a simplified, picture-based interface design used for accessing electronic media resources on a standard desktop and/or portable palmtop computer. The Visual Media Literacy System enables individuals with intellectual disabilities to independently access personalized and web-delivered electronic content for educational use and recreational enjoyment. During Phase I, system requirements and an operational user interface prototype are researched and developed, and a pilot study evaluating the effectiveness of the system demonstrates the technical merit and feasibility of the Visual Media Literacy System, in enabling individuals with intellectual disabilities to access educational and personal enrichment media necessary for participating in the general educational curriculum.
Web Voyager: An Accessible Dynamic Desktop for Enhancing Access to Personalized Web Content and Web-Based Services for Individuals with Intellectual Disabilities

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Project Number: H133S070020
Start Date: October 01, 2007
Length: 6 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $75,000

Abstract: This project investigates the utility of Web Voyager as an online, dynamically driven, information and service management program, specifically designed to deliver personalized content from the Internet to individuals with intellectual disabilities thereby fostering self-determination and independence. Phase I demonstrates the technical merit and feasibility of Web Voyager as a system that delivers real-time, relevant, and understandable information directly to an individual user through the pilot study conducted with individuals clinically defined with mild and moderate intellectual disabilities.
Small Business Innovation Research (SBIR), Phase I
Illinois

A Low-Cost Portable Rehabilitation Device with Intelligent Control to Stretch Spastic Joints

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Project Number: H133S070060
Start Date: October 01, 2007
Length: 6 months
NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 07 $74,925

Abstract: This project develops a low-cost and portable rehabilitation device with intelligent control to stretch spastic joints safely and repeatedly throughout the range of motion (ROM) to reduce spasticity/contracture and increase functional performance. A single degree of freedom (DOF) device is designed to be convertible to multiple joints, such as elbow, wrist, and forearm twisting. Outcomes are evaluated quantitatively in multiple aspects using the same device, including changes in passive ROM, joint stiffness, viscous damping, and reflex gain and threshold. Furthermore, functional changes induced by the stretching are evaluated through the active ROM, muscle co-contraction, and reflex excitability. Functional improvement in the spastic/contractured joint and changes in static/dynamic and reflex/non-reflex characteristics are evaluated quantitatively. The low cost and portability allows the device to be used in local clinics and a patient’s home.
HearingCompanion: Handheld Portable Sound Identification and Critical Alerting Functionality for People Who Are Deaf or Have Hearing Loss

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Project Number: H133S070067
Start Date: October 01, 2007
Length: 6 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 07 $75,000

Abstract: This project researches, develops, and demonstrates the technical merit and feasibility of the HearingCompanion system to: (1) utilize the unique frequency properties of sounds and current digital sound processing techniques to recognize specific sounds in the environment on a pocket-sized device; and (2) alert the user via vibration, images, and captions identifying recognized sounds. Specific objectives for Phase I include: (1) determining end user requirements, (2) developing a prototype of the HearingCompanion system, and (3) performing a usability analysis with actual users. Applications for HearingCompanion are translated directly to applications in environmental monitoring, security, and environmental controls. The utility of identifying sound events to the user on a convenient and lightweight handheld device, combined with the potentially broad range of multi-functionality in other computing and communications capabilities on the portable handheld system, significantly enhances the user’s sense of safety, security, and independence.
Small Business Innovation Research (SBIR), Phase I
Maryland

**Multi-Modal Authoring Tool to Develop Age Appropriate Computer Learning for Children and Adolescents with Developmental Delays**

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**Project Number:** H133S070050
**Start Date:** October 01, 2007
**Length:** 6 months
**NIDRR Officer:** Dawn Carlson, PhD, MPH
**NIDRR Funding:** FY 07 $74,982

**Abstract:** This project demonstrates the technical and commercial feasibility of a multi-modal computer interface device and authoring toolkit for the development of age-appropriate computer learning for children and adolescents with developmental delays. The system allows for: (1) the selection of one or more computer input modalities such as movement or voice to be employed, and (2) the pairing of age appropriate subject matter and presentation with goals appropriate to the individual user’s developmental level. The multi-modal interface and authoring toolkit allows for customization of both hardware and software components to create truly unique and appropriate learning solutions for children of all ages and abilities. Phase I development focuses primarily on children and adolescents with autism spectrum disorders, including those with developmental and learning disabilities. The system allows users to develop life skills in the context of a computer game with the ultimate goal to achieve transfer gains in skills relevant to the individual’s real world functioning.
AcceleGlove: Use as Sign Language Interpretation Instrumentation

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Project Number: H133S070065
Start Date: October 01, 2007
Length: 6 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 07 $74,990

Abstract: This project aims to develop a fully bioelectronic, portable gesturing device that translates American Sign Language (ASL) into English text and audio through two different versions: wired (Phase I) and wireless (Phase II). Project goals include: (1) determining feasibility for two-arm translation, (2) determining capability to interface with ASL and instructional software, and (3) rendering the electronics robust enough for consumer use. Goals are achieved through: (a) the modification of hardware and software previously developed to handle fingerspelling (one hand) to handle ASL translation (two handed) by consumers, and (b) the development of a series of communication protocols and conventions to integrate the ASL instructional and translation software, which are currently standalone applications. The development of bioelectronic instrumentation enables native ASL users to communicate instantaneously with English users for commonplace purposes.
Small Business Innovation Research (SBIR), Phase I
Minnesota

Face Recognition for the Blind

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Project Number: H133S070036
Start Date: October 01, 2007
Length: 6 months
NIDRR Officer: Joseph A. DePhillips
NIDRR Funding: FY 07 $75,000

Abstract: This project creates a device which performs optimal face recognition in a miniature, unobtrusive device. The device is built around a common aperture imaging assembly that combines a miniature thermal imaging camera with a conventional visible light camera. The combined use of thermal and visible light imaging greatly improves face recognition accuracy and efficiency in many scenarios. For example, it enhances the process of locating faces in a crowd and allows sophisticated face recognition algorithms in a low-cost, portable device. The device, worn by a person with visual impairment, can identify the faces of co-workers from a database and then discretely announce the names of those present. Phase I evaluates the feasibility of the optical design with existing face recognition algorithms.
Wireless Wrist Device to Display Sound and Speech Information for the Deaf

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Project Number: H133S070049
Start Date: October 01, 2007
Length: 6 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 07 $75,000

Abstract: This project develops a wireless system to alert deaf people of critical sounds and events in their environment; utilizing a new consumer product called a Bluetooth wristwatch, a wireless, wrist-worn computer interface and display. The Bluetooth watch is used as a hands-free universal interface to a network of sensors providing data about the surrounding environment as well as a convenient interface for text messaging. The goal is to create an efficient, wearable system; integrating all the technology of a standard Bluetooth network, which a deaf person can utilize with existing and developing technology to permit him/her to function more naturally in a work or school environment.
Small Business Innovation Research (SBIR), Phase I
Minnesota

Accessible Watercraft Transfer Device

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Project Number: H133S070021
Start Date: October 01, 2007
Length: 6 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 07 $70,091

Abstract: This project develops accessible and portable watercraft transfer devices that provide safe access to boats for individuals who have difficulty boarding boats, such as people with mobility impairments, balance issues, or lower extremity injuries. Phase I activities focus on developing and testing the following: (1) approaches to supporting, securing, and stabilizing the transfer device, even as the boat moves in response to waves; (2) mechanisms which control the rate of descent; (3) mechanisms that make it easier for an individual to move across the transfer path with or without assistance; (4) user interfaces; (5) a tilt-adjustable transfer platform; (6) and potential sitting supports for the transfer device. The portability allows individuals with disabilities to go boating where they choose, and enables boating programs or facilities to accommodate a broader range of participants more safely.
Automatic Book Scanner for Universal Access

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Project Number: H133S070037
Start Date: October 01, 2007
Length: 6 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 07 $75,000

Abstract: This project studies the feasibility of a high speed, automatic book scanner to digitize large libraries of bound printed matter. A patented, turnstile system utilizes V-shaped and extended rollers to reduce stress on book spines and uniformly press down and flatten pages. The resulting images are high resolution. The objective of the project is to produce a robust solution for document digitization at one-tenth the cost of current systems.
Small Business Innovation Research (SBIR), Phase I
Oregon

**Handsight: Mobile Services for Low Vision**

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**Project Number:** H133S070044  
**Start Date:** October 01, 2007  
**Length:** 6 months  
**NIDRR Officer:** Edna Johnson  
**NIDRR Funding:** FY 07 $74,793

**Abstract:** This project conducts a feasibility study to determine the user interface requirements - response time, accuracy, and function set - needed for the Handsight cell phone service to significantly improve independence. Handsight offers an affordable, extensive set of automated sight-assistant functions using the new, high-speed mobile networks and high-resolution camera-phones. The initial services enable a blind or visually impaired user to find and read text, recognize faces, detect and interpret barcodes, and distinguish colors in real-world situations. By aiming a mobile telephone’s camera in roughly the right direction and pressing just one button, a Handsight user can snap a picture, send it to the Handsight computer center, and have a verbal response within seconds. Researchers measure response times and accuracy ranges that are technologically feasible with currently existing software and conduct experiments to determine how these measures can be expected to change given a number of proposed improvements.
TV Assistance: Telerehabilitation’s Missing Link

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Project Number: H133S070076
Start Date: October 01, 2007
Length: 6 months

NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 07 $75,000

Abstract: The TV Assistance Program (TAP) is a form of telerehabilitation service delivery that allows for consumers with cognitive impairments (e.g. traumatic brain injury, stroke, brain tumor) and their caregivers to sustain therapeutic support through an assistive technology without the complexity of computer technology, difficulties with restricted/reduced funding, and the lack of proximity to service providers. This project evaluates the feasibility of the TV Assistance Program (TAP) to deliver home therapy program content (e.g. strengthening exercises) through the patient’s own TV. Caregivers and therapists are included in the design and evaluation process.
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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; FY 07 $0 (No-cost extension through 8/31/2007)

**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.
Language Translation Device for Deaf Signers with Significant English Language Difficulties: Sign Language to/from English

Ready! Set! Sign!, LLC
4319 South 36th Street
Arlington, VA 22206
contact_us@readysetsign.com

Principal Investigator: Martin Noretsky
Public Contact: 703/820-5730; Fax: 703/820-0022

Project Number: H133S070013
Start Date: October 01, 2007
Length: 6 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 07 $75,000

Abstract: This project creates a translation software program for hand-held computers or PDAs for deaf signers to create simple, unambiguous English sentences. The two project goals are to: (1) significantly building upon the previous SBIR work of the researchers that focused on computer user-interfaces (i.e., screens) and programming for selecting pre-existing sentences and inserting personalized information into partially pre-existing sentences; and (2) creating computer user-interfaces and programming for the “controlled English environment” within which deaf signers can generate simple and unambiguous English sentences to facilitate effective communication with non-signing hearing people in workplace, recreational, educational, and health care services environments.
Development of a Lightweight Adjustable, Modular Pediatric Wheelchair

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Principal Investigator: Chris Willems 480/833-2541
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; FY 07 $0 (No-cost extension through 9/30/2008)

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 Innovation 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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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 Innovation Research (SBIR), Phase II
Florida

Mobile Language Reference for Deaf and Hard-of-Hearing K-12 Students

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jasonh@vcom3d.com
www.vcom3d.com

Principal Investigator: Jason Hurdich
Public Contact: 407/737-7310

Project Number: H133S070088
Start Date: October 01, 2007
Length: 24 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 07 $249,998

Abstract: This project develops software for hand held devices for use in elementary and secondary grades. During Phase I of this project, Vcom3D developed and tested a prototype Mobile Language Reference for students in the middle grades that included American Sign Language and Signed English definitions selected from the Signing Science Dictionary, developed by TERC and Vcom3D, as well as explanations of multi-sense words and English idioms. Initial testing of the Mobile Language Reference indicated a high level of user acceptance and provided evidence that the system can improve learning outcomes. For Phase II, Vcom3D creates and evaluates a mobile version of the Signing Science Dictionary with at least 1,300 scientific terms. Like the original dictionary, this mobile version targets students in the middle grades. Versions are created for hand held media and multi-function devices, such as the iPod, iPhone, Blackberry, and Sidekick; and tools and a starter kit developed for teachers to create “personalized dictionaries” that could include additional scientific terms, idioms, multi-sense words, and unfamiliar words that would benefit the students within their own curriculum, and could also be used in informal settings. The feasibility and efficacy of these personalized dictionaries and the tools used create them is evaluated independently of the Signing Science Dictionary.
**Small Business Innovation Research (SBIR), Phase II**

Indiana

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

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www.createabilityinc.com/soundalert.html

**Principal Investigator:** Stephen M. Sutter  
**Public Contact:** 317/777-0356

**Project Number:** H133S060109  
**Start Date:** October 01, 2006  
**Length:** 24 months  
**NIDRR Officer:** Bonnie Gracer  
**NIDRR Funding:** FY 06 $250,000; FY 07 $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 Innovation 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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burns@aerodyne.com

Principal Investigator: Michael L. Burns, PhD
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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; FY 07 $249,922

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 Innovation Research (SBIR), Phase II
Minnesota

Powered Mounting and Positioning System

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www.blueskydesigns.us

Principal Investigator: Dianne Goodwin
Public Contact: 888/724-7002; 612/724-7002; Fax: 612/724-7004

Project Number: H133S060096
Start Date: October 01, 2006
Length: 24 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 06 $237,212; FY 07 $262,786

Abstract: In this Phase II project, 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.
Small Business Innovation 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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New York, NY 10018  
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www.touchgraphics.com

**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; FY 07 $242,029

**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 Innovation Research (SBIR), Phase II
New York

**Diabetes Communications for the Disabled**

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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; FY 07 $252,518

**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.
Small Business Innovation Research (SBIR), Phase II
Oregon

My Scrivener™ Innovative Technology to Enhance Fine Motor Function

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Project Number: H133S070082
Start Date: October 01, 2007
Length: 24 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 07 $262,565

Abstract: This project builds upon current research, development, and evaluation work for a prototype special education intervention called My Scrivener™. My Scrivener™ is based on emerging research demonstrating that computer-assisted motion training can stimulate the growth of neural connections. The system uses a force-feedback peripheral haptic unit attached to a personal computer for “sense of touch” instruction in printing, through repetitive-motion, for children with fine-motor skill deficits. During Phase II, a prototype is being developed and clinical trials conducted to demonstrate the feasibility of visible improvement in the child’s fine motor and handwriting skills. My Scrivener™ is anticipated to significantly improve proprioceptive awareness and hence, writing, as measured by accuracy and speed for children with development coordination disorders arising from attention deficits, autism, mild cerebral palsy, intellectual disabilities, or unspecified learning disabilities.
Why Go It Alone? The Use of Public Resources to Enhance Computer Accessibility for Individuals with Intellectual Disabilities

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Principal Investigator: Lynn Fox 503/725-3188
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Project Number: H133S070096
Start Date: October 01, 2007
Length: 24 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $244,206

Abstract: The Personal Access Computer Key (PACK) is a modified Universal Serial Bus (USB) designed to accommodate adaptive software and can be launched on publicly accessible, updated computers. Phase II of this project focuses on research and design in addressing security concerns which make PACK unusable on public computers (e.g. public library computers). Two additional applications, a desktop game and a rehabilitation homework program, are evaluated across a range of settings and participants with cognitive impairments.
**Small Business Innovation Research (SBIR), Phase II**  
Pennsylvania

### Universal Access to Passenger Rail

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**Principal Investigator**: Linda van Roosmalen, PhD  
**Public Contact**: Rob Jamison 412/431-1340

**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; FY 07 $0 (No-cost extension through 9/30/2008)

**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.
Low Vision Lime: Solution for Low Vision Musicians to Read, Perform, Write, and Print Music Notation

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Project Number: H133S070089
Start Date: October 01, 2007
Length: 24 months
NIDRR Officer: Edna Johnson
NIDRR Funding: FY 07 $250,150

Abstract: This project evaluates and defines the Lime notation software, a self-contained, music reading and writing system that allows low vision musicians to independently accomplish typical tasks important to performers and composers with normal vision. It enables performers and composers with low vision to read/perform and write/revise notation, including accessible editing and printing. Specifically, the system allows for magnification that is up to 10 times the original image; displays magnified notation on a flat-panel monitor mounted on a music stand using a combination of automatic and user-controlled scrolling; adds specialized magnification of music notation, a custom scrolling mode, user control of colors and contrast; integrates a touch tablet and stylus of manual markup; and expands the implementation of MusicXML import/export to facilitate exchange with commercial notation software. Project goals include: (1) refining and completing continuous scrolling display options; (2) completing Lime’s integrated score enlargement and low vision feature set; (3) finalizing configuration and scripting of third-party magnification utilities; (4) measuring effectiveness of new features with a select cross-section of musicians with low vision; (5) developing markup option for handwriting annotations on scores; (6) expanding MusicXML import/export capability; and (7) measuring effectiveness with a select cross-section of musicians with low vision.
Increasing Mobility Through Advanced Power Sources for Assisted Mobility Devices

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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; FY 07 $205,109

**Abstract:** Lynntech, Inc. develops a high-capacity hydrogen storage system for a fuel cell/battery hybrid power supply for electric wheelchairs and scooters. The lightweight, 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; FY 07 $0 (No-cost extension through 9/30/2008)
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.
Small Business Innovation Research (SBIR), Phase II  
Utah

**Wireless EMG Preamp & Improved Mounting System**

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**Principal Investigator:** Harold Sears  
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**Project Number:** H133S070084  
**Start Date:** October 01, 2007  
**Length:** 24 months  
**NIDRR Officer:** Theresa San Agustin, MD  
**NIDRR Funding:** FY 07 $257,065

**Abstract:** This project develops a small, waterproof, Wireless EMG Preamp sensor for myoelectric arm prostheses. The waterproof sensor transmits a digital signal via a wireless link, eliminating many of the wires and connectors associated with arm prostheses, and allowing connection to modern roll-on gel type liners (which maintain consistent and intimate contact with the wearer’s skin). The Wireless EMG Preamp sensor is designed for use with popular mounting techniques, and improves the contact of electrodes with the skin, reduces the wires that the prostheteist must install inside the socket, and through digital signal processing, reduces the interference from rapidly-growing causes of EMG signal problems, thus creating a benefit for both the wearers and prosthetists. The Wireless EMG Preamp system enhances the practicality of myoelectric arm fittings by reducing breakdowns, and thereby increasing the reliability of the day-to-day wearer’s control of the arm prosthesis.
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; FY 07 $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 provides 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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Florida Mental Health Institute
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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; FY 07 $801,190
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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1640 Roosevelt Road
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Principal Investigator: Tamar Heller, PhD 312/413-1537
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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; FY 07 $749,998

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 Center on Policies Affecting Families of Children with Disabilities

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Center for Research, Inc.
Beach Center on Disability
Haworth Hall, Room 3136
1200 Sunnyside Avenue
Lawrence, KS 66045-7534
turnbull@ku.edu
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Principal Investigator: H.R. Turnbull, LLM; Ann Turnbull, EdD
Public Contact: H. R. Turnbull, LLM 785/864-7600; Fax: 785/864-7605

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; FY 07 $749,930

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). Early intervention and consumer control of funding are two policy challenges through which the effects of policies on families can be understood. 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)
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; FY 07 $649,908
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. 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  

Boston University  
Center for Psychiatric Rehabilitation  
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Boston, MA 02215-1203  
mfarkas@bu.edu  
erogers@bu.edu  
www.bu.edu/cpr/research/ongoing/rtc2009/index.html  

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

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; FY 07 $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
300 Longwood Avenue
Boston, MA 02115-5737
www.communityinclusion.org

Principal Investigator: Judith S. Palfrey, MD
Public Contact: 617/355-4661; Fax: 617/730-0633

Project Number: H133B060012
Start Date: October 01, 2005
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 06 $800,000; FY 07 $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.
Rehabilitation Research and Training Centers (RRTCs)
Minnesota

Research and Training Center on Community Living (RTC/CL)

University of Minnesota
The Institute on Community Integration
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Minneapolis, MN 55455
lakin001@umn.edu
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 Principal Investigator: Charlie Lakin, PhD 612/624-5005
Public Contact: Sheryl Larson, PhD 612/625-6024; Fax: 612/625-6619

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; FY 07 $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
data sets; (3) case studies of best practices; (4) 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 Center for Community Integration for Individuals with Disabilities, Strengthening Family and Youth Participation in Child and Adolescent Mental Health Services

Portland State University
Regional Research Institute
School of Social Work
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www rtc pdx edu

Principal Investigator: Barbara Friesen, PhD 503/725-4166
Public Contact: Donna Fleming, Center Manager 503/725-8313; Fax: 503/725-4180

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; FY 07 $801,190

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

University of Pennsylvania
Collaborative on Community Integration
3535 Market Street, 3rd Floor - CMHPSR
Philadelphia, PA 19104
pennrrtc@mail.med.upenn.edu
www.upennrrtc.org

Principal Investigator: Mark Salzer, PhD
Public Contact: Katy Kaplan 215/746-6713; Fax: 215/349-8715

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; FY 07 $744,757

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 and Training Center on Community Integration of Persons with TBI

The Institute for Rehabilitation and Research (TIRR)
Brain Injury Research Center
2455 South Braeswood
Houston, TX 77030
asander@bcm.tmc.edu
struchen@bcm.tmc.edu
www.tbicommunity.org

Principal Investigator: Angelle M. Sander, PhD; Margaret Struchen, PhD
Public Contact: 713/383-5644 (Sander); 713/383-5645 (Struchen)

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; FY 07 $799,259

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; 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; development of educational materials to train state vocational counselors in the needs of persons with TBI; and a state-of-the-science conference and book on community integration.
Asset Accumulation and Tax Policy Project

University of Iowa College of Law
Law, Health Policy, and Disability Center
100 Gilmore Hall
Iowa City, IA 52242
peter-blanck@uiowa.edu
disability.law.uiowa.edu/lhpdc/projects/assetdevtaxpol.html

Principal Investigator: Peter D. Blanck, PhD, JD 319/335-9043
Public Contact: Michael Morris, JD; James Schmeling, JD 202/521-2930 (Morris); 319/335-8458 (Schmeling); Fax: 319/335-9764

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; FY 07 $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.
Disability and Rehabilitation Research Projects
Kansas

The Impact of Interventions on Self-Determination and Adult Outcomes

University of Kansas
Kansas University Center on Developmental Disabilities/Beach Center on Disability
1200 Sunnyside Avenue, Room 3136
Lawrence, KS 66045-7534
wehmeyer@ku.edu
www.beachcenter.org

Principal Investigator: Michael Wehmeyer, PhD (University of Kansas); Laurie Powers, PhD (Portland State University); 785/864-7605
Public Contact: 785/864-0723; Fax: 785/864-3458

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; FY 07 $299,994

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

Western Oregon University
The Teaching Research Institute
99 West 10th Avenue, Suite 370
Eugene, OR 97401
glanga@wou.edu
www.tr.wou.edu/STEP/

Principal Investigator: Ann E. Glang, PhD
Public Contact: 541/346-0594; Fax: 541/346-0599

Project Number: H133A060075
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 06 $300,000; FY 07 $300,000

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

Oregon Health and Science University  
School of Nursing  
3181 SW Sam Jackson Park Road  
Portland, OR 97201  
powersl@pdx.edu; oschwald@pdx.edu  
selfdeterminationohsu.org

Principal Investigator: Mary Ann Curry 503/494-8655  
Public Contact: Mary Oschwald, PhD 503/725-9602; Fax: 503/725-4180

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; FY 07 $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 promote 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

University of Arizona
National Center for Interpretation
Geronimo Building, 2nd Floor
Tucson, AZ 85721
pgatto@email.arizona.edu
nci.arizona.edu

Principal Investigator: Roseann Gonzalez, PhD; Paul Gatto, CPhil
Public Contact: Paul Gatto, CPhil 520/621-3615; Fax: 520/624-8130

Project Number: H133G040115
Start Date: November 01, 2004
Length: 36 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 04 $149,957; FY 05 $149,957; FY 06 $149,957; FY 07 $0 (No-cost extension through 6/30/2008)

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.
Field Initiated Projects (FIPs)
California

Curriculum on Abuse Prevention Education (CAPE)

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

Principal Investigator: Marsha Saxton, PhD
Public Contact: 510/251-4349; Fax: 510/763-4109

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; FY 07 $149,493

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.
Field Initiated Projects (FIPs)
Illinois

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

University of Illinois at Chicago
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**Principal Investigator:** Lisa A. Razzano, PhD

**Public Contact:** 312/422-8180, ext. 20; Fax: 312/422-0740

**Project Number:** H133G060224

**Start Date:** November 01, 2006

**Length:** 36 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 06 $147,341; FY 07 $145,861

**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.
**Combining Technologies to Maximize Outcomes: Telemedicine and Online Training Program for Parents of Children with Autism**

**University of Kansas**  
Schiefelbusch Institute for Life Span Studies  
Juniper Gardens Children’s Project  
650 Minnesota Avenue, 2nd Floor  
Kansas City, KS 66101  
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**Principal Investigator:** Linda S. Heitzman-Powell, PhD  
**Public Contact:** 913/321-3143; Fax: 913/371-8522

**Project Number:** H133G060238  
**Start Date:** October 01, 2006  
**Length:** 36 months  
**NIDRR Officer:** Shelley Reeves  
**NIDRR Funding:** FY 06 $149,824; FY 07 $149,965

**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 prohibit 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’s 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

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

Principal Investigator: E. Sally Rogers, PhD
Public Contact: 617/353-3549; Fax: 617/353-7700

Project Number: H133G060071
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $149,735; FY 07 $149,908

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)
Massachusetts

Development of Measures of Participation and Environment for Children with Disabilities

Boston University
Sargeant College of Health and Rehabilitation Sciences
635 Commonwealth Avenue
Boston, MA 02215
wjcoster@bu.edu

Principal Investigator: Wendy J. Coster, PhD
Public Contact: 617/353-7518

Project Number: H133G070140
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $195,233

Abstract: This project develops new measures of participation and environment for children and youth with disabilities using input from families and their children with disabilities. The new measures are developed using Item Response Theory (IRT) to ensure that the measures developed are interpretable, provide interval level data for analyses, and are valid for the specified purposes. The project has three major phases. The first phase is a development phase that synthesizes results from prior research on participation and environment and analysis of the ICF with information derived from focus groups of caregivers and children and youth with a variety of disabilities to identify meaningful domains and item content areas for the new measures. Initial item pools are developed, subjected to expert review and cognitive testing, and then field-tested with both caregiver and child respondents to identify any significant problems with scaling or content coverage using IRT methods. After revisions based on these results, a larger field study is conducted using both paper and web-based survey formats to examine the properties of the revised item pools. The ultimate aim is to develop large pools of participation and environment items that can support survey and computer-adaptive testing measures that are linked on a common scale. This approach allows flexible development of alternative forms whose derived scores can be compared directly with one another, e.g. so that results from different studies are more easily compared. The present project develops and tests (using simulation studies) short survey forms from the initial pools for immediate use. The research is a collaborative effort between experienced investigators in the United States and Canada. This collaboration facilitates development of broadly applicable measures by taking into account potential differences in environment and participation across very different health care delivery systems.
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; FY 07 $149,891

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; FY 07 $149,950
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)
Montana

CIL-based Abuse Education and Safety Planning Program for Women with Disabilities

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Project Number: H133G070196
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 07 $199,996

Abstract: The purpose of this project is to develop and evaluate an accessible, consumer-driven, abuse education and safety planning program for women with disabilities. The conceptual model for the program identifies knowledge about safety planning, self-efficacy, and social connectedness as three protective factors that influence safety behaviors and safety itself. Drawing on both the strengths of traditional community-based domestic violence and sexual assault programs and the cumulative research findings on the dynamics and prevalence of violence against women with disabilities, this program offers an integrated approach for meeting the gender-specific and disability-sensitive prevention needs of women with disabilities. The intervention is implemented with women with disabilities recruited from the 10 centers of independent living (CILs) and randomly assigned to a group that will participate in either the on-going CIL services plus the abuse education and safety planning program, or to a group receiving the on-going CIL services only. The program consists of six 2.5-hour weekly sessions using a curriculum that includes topics such as self-advocacy, nature of abuse and violence, safety planning strategies, and healthy relationships. All sessions include self-efficacy training, goal-setting, problem-solving, and interactive activities to encourage mutual support. A CIL staff member from each site will participate in a comprehensive leader training program conducted by the project personnel. This is the first randomized, controlled evaluation of a violence prevention group program designed to meet the unique needs of women with disabilities.
Field Initiated Projects (FIPs)
North Carolina

Improving Representative Payeeship for People with Psychiatric Disabilities and their Families

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Project Number: H133G070058
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 07 $198,669

Abstract: This project evaluates a pilot-tested, stakeholder-informed intervention that is grounded in principles of psychiatric rehabilitation and encourages consumers with psychiatric disabilities and their family members to collaborate within the representative payee arrangement. Representative payees, mostly family members, manage Social Security Administration funds for more than one million people with psychiatric disabilities. Although studies show payeeship can be used coercively, foster dependency, reduce work incentives, lead to family conflict and even violence, there has been little systematic research on how to lower these significant barriers to community integration. This project tests the Collaborative Representative Payeeship (Co-RP) intervention, a brief, four-session intervention that aims to facilitate a cooperative consumer-payee relationship, increase accurate knowledge about representative payeeship, promote collaborative money management and effective budgeting, and prepare mutually developed plans for carrying out the payeeship in the future. The long-term goal is to promote recovery among adults with psychiatric disabilities who have payees by reducing downsides associated with what has been called “the nation’s largest guardianship system.”"
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; FY 07 $149,984

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 preschool, 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; FY 07 $149,569

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: Shelley Reeves
NIDRR Funding: FY 06 $149,379; FY 07 $147,834

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.
Development of a Safety-Planning Tool for Men with Disabilities

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Project Number: H133G070190
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 07 $200,000

Abstract: In order to plan for safety, men with disabilities (MWD) need to be aware of options and have access to responsive community resources that support healing, support independence, and assist with the reporting of violence. The purpose of this project is to develop a gender-appropriate Audio Computer-Assisted Self-Interview (A-CASI) to ensure MWD have the skills necessary for effective safety planning. The major goals of the project are to: (1) work closely with MWD to identify safety-planning options for dealing with abuse; and (2) develop and pilot an A-CASI Safety-Planning Tool that builds upon current research findings on the abuse experiences of men with disabilities and our development of a similar A-CASI program for women with disabilities. The project is conducted by the Regional Research Institute at Portland State University in collaboration with The Rural Institute at University of Montana.
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; FY 07 $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; FY 07 $0 (No-cost extension through 8/31/2008)

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.
Small Business Innovation Research (SBIR), Phase I
Minnesota

Evacuation Methodology and Understanding Behavior of Persons with Disabilities in Disasters: A Blueprint for Emergency Planning Solutions

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Project Number: H133A070005
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 07 $443,035

Abstract: This project quantifies and interprets the unique challenges of persons with disabilities and other special needs during emergency/disaster evacuations in order to improve the management of such events. The VMC/Homeland Security Programs (VMC) at West Virginia University (WVU) and the Center for Disability and Special Needs Preparedness (DPC) operated by Inclusion Research Institute (IRI) gathers data on persons with disabilities/special needs who have either recently personally evacuated from an emergency/disaster situation, have been in or proximate to a recent disaster evacuation, or who reside in an area that has not experienced a recent evacuation, but might face a type of hazard that could prompt an evacuation some time in the future. The project gathers data in order to evaluate the current state of evacuation preparedness in the area of special/functional needs by local government and key non-governmental service providers across the United States. The investigators integrate these two data sources to create guidelines that key decision-makers, both governmental and nongovernmental, can use to improve existing evacuation plans to account for the disabilities/special needs public based upon urban, suburban, and rural models. Likewise, the project also produces guidelines for incorporating a disability/special needs element in emergency evacuation training and exercises along with delineating future emergency preparedness educational needs within the individuals with disabilities community. Results and products of the study are disseminated to service providers, emergency managers, first responders, other planners, and policy makers across the United States.
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; FY 07 $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, computer adaptive testing, and stakeholder input in test development, outcomes reporting, and quality indicator reporting. The expected outcomes are a rational basis for provision of rehabilitation services in post-acute care settings, increased efficiency of data collection, a better measure of community participation, and outcome reporting that is responsive to stakeholder needs. Dissemination activities include post-graduate and post-doctoral training opportunities, conferences, and a website that provides information on measurement of rehabilitation outcomes across the continuum of post-acute settings.
Rehabilitation Research and Training Centers (RRTCs)
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; FY 07 $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.
Field Initiated Projects (FIPs)
Colorado

Public Spending for Disability in the United States: A Comparative, Longitudinal Study

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Project Number: H133G070163
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 07 $199,961

Abstract: This project is a comprehensive longitudinal study of the characteristics, trends, and determinants of public spending for disability programs in the United States at the federal, state, and local level. Data collection and analysis utilizes 28 disability program subcategories across 4 major activity domains: income maintenance, general health care, long-term care, and special education. The project’s comprehensive focus includes intellectual/developmental disabilities, mental illness, and physical/sensory disability. The envisioned state-by-state and nationwide database on public spending and program participation will be developed across fiscal years 1997-2008.
Field Initiated Projects (FIPs)
Washington

Assessing the Impact of Medicare-D on SSDI Beneficiaries

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Project Number: H133G070055
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 07 $199,955; FY 08 $199,706

Abstract: This project employs a multi-method, repeated-measures design to assess the impact of Medicare-D on younger beneficiaries in four distinct but interrelated studies: (1) quantitative analysis of access and utilization rates among beneficiaries under age 65, using successive panels of the Medicare Current Beneficiary Survey; (2) qualitative research on the impact of Medicare benefits on employment and continuity of medical care, based on repeated focus groups at two sites; (3) formulary analysis of coverage for critical medications among competing private Medicare Advantage and Prescription Drug Plans in Washington State; and (4) ongoing policy analysis of legislative and regulatory changes in Medicare and SSDI. Tracking the impact of the new drug benefit is particularly important for younger adults with disabilities who become eligible for Medicare through the Social Security Disability Insurance (SSDI) program. Although younger beneficiaries comprise only 14.1% of the total Medicare population, they account for about 17% ($71.6 billion) of total program expenditures. Despite their economic and political importance, younger beneficiaries with disabilities are routinely overlooked in published Medicare research and policy analysis. Through dissemination of research findings, this project enhances awareness in the research and policy community of the unique Medicare-D concerns of younger beneficiaries with disabilities, consistent with the ultimate goal of improving access to affordable health services for people with disabilities.
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)

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Project Number: H133A060039
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 06 $625,000; FY 07 $625,000

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.
Innovative Knowledge Dissemination and Utilization for Disability and Professional Organizations and Stakeholders

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

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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
4700 Mueller Boulevard
Austin, TX 78723
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
4700 Mueller Boulevard
Austin, TX 78723
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.
Model Spinal Cord Injury Systems Dissemination Center

The Institute for Rehabilitation and Research (TIRR)
1333 Moursund Street
Houston, TX 77030-3405
khart@bcm.tmc.edu
www.mscisdissseminationcenter.org

Principal Investigator: Karen A. Hart, PhD
Public Contact: 713/797-5946; Fax: 713/797-5982

Project Number: H133A011501
Start Date: September 01, 2001
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 01 $150,000; FY 02 $150,000; FY 03 $150,000; FY 04 $150,000; FY 05 $150,000; FY 06 $0 (No-cost extension through 8/31/2007); FY 07 $0 (No-cost extension through 2/28/2008)

Abstract: The Model Spinal Cord Injury Systems (MSCIS) Dissemination Center is a collaborative effort that includes the NIDRR-funded Model Spinal Cord Injury Centers and SCI collaborative research projects. The Center provides information about MSCIS research and publications to inquirers and model system staff members via the Internet, the telephone, and surface mail. Overall objectives of the project are: (1) documenting the scientific productivity of the Model SCI Centers and Collaborative Research Projects and providing a history of the Model Centers’ publications; (2) verifying that the publications are peer-reviewed by downloading citations from Medline, Current Contents, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Psychology Literature (PsychLit); (3) ensuring the accuracy of the citations through verification by Center and author semi-annually; (4) maintaining, on a semi-annual basis, the listing of web-accessible citations hosted on web site of the Regional Spinal Cord Injury Center of the Delaware Valley at Thomas Jefferson University Hospital in Philadelphia; (5) documenting and verifying the accuracy and currency of published book chapters and textbooks; (6) storing information electronically in Reference Manager in a format that can be uploaded to Reference Web Poster on the Center’s web site; (7) gathering structured data from each of the Model SCI Centers and Collaborative Research Projects that describes the educational products produced and the presentations given; (8) classifying the educational products and presentations produced by the Model SCI Centers and Collaborative Research Projects to provide a variety of accurate retrieval options for interested constituents; (9) developing a data storage system that facilitates uploads into the program’s web site in accessible format for interested constituents such as individuals with SCI, organizations, NIDRR, NCDRR, NARIC, the Model SCI Centers, libraries, rehabilitation facilities, professionals, and students; (10) disseminating efficiently and effectively to the greatest number of constituents the publications, educational products, and presentations produced by the Model SCI Centers and the Collaborative Research Projects as an aggregate representation of this NIDRR program’s contribution to the field of SCI; (11) providing a mechanism for NCDRR and NARIC to verify that they have complete and accurate information about all the Model SCI Centers and their accomplishments so that NCDDRR and NARIC can achieve their dissemination objectives; and (12) reaching the greatest number of individuals possible with information and education about SCI by efficient use of NIDRR-funded resources and personnel.
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
www.adata.org

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

Project Number: H133A060087
Start Date: October 01, 2006
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.
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; FY 07 $0
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.
The Americans with Disabilities Act (ADA) opens more opportunities for persons with disabilities. It also places certain responsibilities on employers, transit and communication systems, state and local governments, and public accommodations. To assist covered parties to understand and comply with the ADA, NIDRR has funded a network of grantees to provide information, training, and technical assistance to businesses and agencies with duties and responsibilities under the ADA.

Contents

ADA Technical Assistance Projects ................................................................. 3
ADA Technical Assistance Projects
Region I - CT, ME, MA, NH, RI, and VT

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: Bonnie Gracer
NIDRR Funding: FY 06 $1,026,116; FY 07 $1,033,136
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 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; FY 07 $1,105,000

Abstract: The Disability and Business Technical Assistance Center - Northeast (DBTAC-Northeast) serves Region II to ensure the full implementation of the Americans with Disabilities Act of 1990 (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.
**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  
adainfo@transcen.org  
www.adainfo.org

**Principal Investigator:** Richard G. Luecking, PhD  
**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:** Bonnie Gracer  
**NIDRR Funding:** FY 06 $1,098,929; FY 07 $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
1419 Mayson Street
Atlanta, GA 30324
sedbtacproject@law.syr.edu
www.sedbtac.org

Principal Investigator: Peter Blanck, PhD, JD; Shelley Kaplan; 315/443-9703 (Blanck); 404/541-9001 (Kaplan);
Public Contact: Shelley Kaplan, Project Director 800/949-4232 (V/TTY, in AL, FL, GA, KY, MS, NC, SC, and TN); 404/541-9001 (V/TTY); Fax: 404/541-9002

Project Number: H133A060094
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $1,105,000; FY 07 $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.
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; FY 07 $1,105,000

Abstract: The Great Lakes Disability and Business Technical Assistance Center (DBTAC) promotes 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. 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.
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
Public Contact: 800/949-4232 (V/TTY, in AR, LA, NM, OK, and TX); 713/520-0232 (V); 713/520-5136 (TTY); Fax: 713/520-5785

Project Number: H133A060091
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 06 $1,104,007; FY 07 $1,104,738

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.
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: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $458,330; FY 07 $1,100,000

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.
DBTAC Rocky Mountain ADA 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: Jana Copeland, PhD, Project Director 719/444-0268
Public Contact: Patrick Going, Project Director 800/949-4232 (V/TTY, in CO, MT, ND, SD, UT, and WY); 719/444-0268 (V/TTY); 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; FY 07 $1,105,000

Abstract: The DBTAC Rocky Mountain ADA Center provides technical assistance, training, and information on the Americans with Disabilities Act (ADA) 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.
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; FY 07 $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 online 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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Project Number: H133A060084
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 06 $1,105,000; FY 07 $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.
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

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Project Number: H133B050003
Start Date: October 01, 2005
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 05 $500,000; FY 06 $500,000; FY 07 $500,000
Other Funding: FY 05 $800,000 Centers for Mental Health Services (CMHS); FY 06 $800,000 CMHS; FY 07 $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.
Building Research Capacity Through Collaboration among American Indian Tribes in Connecticut and Rhode Island

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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; FY 07 $347,274
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, Schaghticoke, 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

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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; FY 07 $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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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; FY 07 $350,000

Abstract: The goals of this project are to improve 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.
Disability and Rehabilitation Research Projects
New York

Toward Equity: Innovative, Collaborative Research on Interpreter Training, DBT, and Psychological Testing

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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; FY 07 $299,935

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.
Disability and Rehabilitation Research Projects
Texas

Minority Scholar/Champion Research Training Project

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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; FY 07 $349,222

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.
Fellowships (Distinguished)
Illinois

Effects of Repeated Ankle Stretching on the In Vivo Muscle-Tendon Properties of the Triceps Surae Muscles in Stroke Survivors

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Project Number: H133F070012
Start Date: September 01, 2007
Length: 12 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $75,000

Abstract: Recent studies have suggested that muscle-tendon properties are associated with contracture and/or spasticity and functional performance. This project tests the hypothesis that: (1) spasticity and/or contracture around the ankle joint in stroke patients is associated with changes in muscle-tendon properties, in particular, muscle force generating capacity and stiffness; and (2) repeated ankle stretching will alter muscle-tendon properties, such as length, stiffness, viscosity, especially muscle force generating capacity, and improve functional performance. Therefore the objective of the project is twofold: (1) examine pathological changes in muscle-tendon properties of the triceps surae muscles, including force generating capacity and stiffness in stroke survivors; and (2) investigate the improvements in the muscle-tendon properties and functional outcomes induced by repeated ankle stretching in patients post stroke. The project’s findings provide guidance and recommendations for the rehabilitation of stroke survivors, including a promising new treatment option based on intelligent stretching.
A Noninvasive Surface Electromyogram Decomposition Method and Its Application in Disability Rehabilitation

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Project Number: H133F070022
Start Date: October 01, 2007
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $75,000

Abstract: This study develops a convenient, practical, and readily available surface electromyogram (EMG) decomposition method to replace and/or to supplement traditionally used, indwelling needle electrode-based decomposition approaches. Results benefit the rehabilitation community and a large population of patients by reducing pain, emotional tension, and risk of infection during EMG examination.
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; FY 07 $0 (No-cost extension through 11/30/2008)

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.
Constructing Consumer Values for Independent and Community Living (ICL)

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Project Number: H133F070025  
Start Date: October 01, 2007  
Length: 12 months  
NIDRR Officer: A. Cate Miller, PhD  
NIDRR Funding: FY 07 $75,000

Abstract: This project investigates consumer values that influence independent and community living (ICL) preferences. Knowledge of consumer values for ICL is central to service delivery, particularly in view of the self-determination and consumer philosophy that informs ICL outcomes. The study population is approximately 650 consumers with musculoskeletal conditions, neurological, circulatory, respiratory diseases, and other physical conditions from 8 of 17 Centers for Independent Living in Pennsylvania. The project applies concept mapping to consumer focus group discussion data. Participants engage in nine focus group discussions with concept mapping to identify their ICL-related values. Concept mapping is an inductive, mixed method approach for describing social reality from participant viewpoints. The external validity of the consumer values construct determines their differentiation among consumers with known ICL statuses. Consumer value maps for ICL outcomes define significant ICL preferences. The maps operationalize the content of each value components, enabling utilization in ICL related interventions. These consumer-centered concept maps inform rehabilitation interventions for ICL.
Leadership Development of Self-Advocates

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Project Number: H133F070013
Start Date: October 01, 2007
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $65,000

Abstract: This project explores the process of leadership development of leaders in the self-advocacy movement and their perspectives on the future of the movement. Exploring the life stories and perspectives of leaders in the self-advocacy movement provides a guide to interventions and policies addressing concerns about future of leadership in the field of developmental disabilities. Topic areas include: (1) key events and supports in the process of leadership development of self-advocates; (2) the meaning of leadership from the perspective of self-advocates; (3) challenges facing the future of the self-advocacy movement; and (4) the supports needed for the next generation of leaders in the movement.
**Comprehensive Evaluation of the Effect of an Ankle Foot Orthoses for Ambulatory Function in Adults with Hemiplegia**

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**Project Number:** H133F070028  
**Start Date:** August 01, 2007  
**Length:** 12 months  
**NIDRR Officer:** A. Cate Miller, PhD  
**NIDRR Funding:** FY 07 $65,000

**Abstract:** This project (1) comprehensively evaluates the effect of an ankle-foot orthotic (AFO) on ambulatory function and loading in hemiplegic gait; (2) addresses important questions regarding the effect of an AFO on gait and introduces technology for quantifiable objective assessment of AFO effectiveness; and (3) identifies if AFO wear compliance increases community ambulation and walking efficiency bilaterally. Information from the study leads to more effective brace prescriptions and modifications, and a better understanding of how an AFO changes hemiplegic gait and improves assessment techniques. Additionally, the project utilizes objective assessments, measuring how an AFO affects mobility improvements and wearer compliance in the stroke rehabilitation population. Project data enhances the health, productivity, independence and quality of life of post-stroke patients and may be utilized by various rehabilitation healthcare professionals.
Fellowships (Merit)
New Jersey

Access, Coordination, and Quality of Health and Rehabilitative Services for Community-Living Persons with Disabilities

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Project Number: H133F070005
Start Date: October 01, 2007
Length: 12 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $65,000

Abstract: The main objectives of this project are: (1) to solicit qualitative data from individuals with disabilities regarding their health care services and whether extant instruments adequately assess their care quality issues; and (2) to develop a standardized, validated survey that addresses the concerns of people with disabilities with regard to access and quality of their health care services. The study conducts focus groups with 15-20 individuals over 18 years old with physical and neurological disabilities (e.g., spinal cord injury [SCI], multiple sclerosis, and stroke) living in the community. Participants are presented with the Consumer Assessment of Healthcare Providers and Systems (CAHPS), plus additional items on quality of chronic illness care. During focus group meetings, they relate their experiences with care access, coordination, and quality, and critique the extant instruments. A qualitative data report and a preliminary instrument appropriate for persons with disabilities (modified CAHPS) are drafted. The second or main phase of research provides a preliminary validation and test of the draft instrument. Participants include 50 individuals with SCI living in the community. Participants are administered the new instrument and other items on chronic illness care, care satisfaction, and health status. The analysis determines the concurrent validity of the new instrument (e.g., correlations with the original CAHPS, care satisfaction, and other items) and indicators of internal consistency (e.g., item totals correlations). The results include: (1) a survey that is ready for use in SCI populations as well as ready to test in other groups; and (2) pilot data on health care quality and related factors that form the basis for a larger, future grant proposal.
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; FY 07 $0 (No-cost extension through 11/30/2008)

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.
Speech Production Characteristics in Individuals with Down Syndrome: A Systematic Analysis of Variables Affecting Speech Intelligibility

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Project Number: H133F070035
Start Date: November 01, 2007
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $65,000

Abstract: This project creates a database of speech production characteristics for individuals with Down Syndrome (DS), age 9-16 years, using Pepper Software Program, an innovative and novel method. This database provides: (1) a means to quantitatively investigate multiple factors which influence speech intelligibility in children and adolescents with DS; and (2) a method to determine if speech characteristics seen in individuals with DS are unique or if they follow the same trajectory as other populations. Specific project goals include: (1) create a database of speech production characteristics for individuals with DS using unique and contemporary methods (i.e., the Pepper Software program) of analysis; (2) compare the influence of specific speech characteristics on intelligibility in individuals with DS and individuals with a speech delay (but no known medical diagnosis) with a similar range of intelligibility; and (3) investigate how the purported factors (i.e., voice quality, resonance, articulation rate, phonological processes, articulation error patterns, dysfluency/stuttering, and hearing status) influence speech production and resultant intelligibility in individuals with DS. The results of this project provide for: (1) the expansion of current knowledge about the development of speech production in individuals with DS; (2) improving understanding of factors contributing to decreased intelligibility in individuals with DS; (3) providing a means to determine if speech production skills in individuals with DS are unique or simply delayed; and (4) providing a foundation for therapeutic intervention with the ultimate goal of increasing speech intelligibility (and thereby improving quality of life) in individuals with DS.
Disability Harassment in Secondary Schools: An Exploratory Study to Identify the Major Types of Student Harassment and Their Occurrence

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Principal Investigator: Jerome J. Holzbauer
Public Contact: 414/774-7253

Project Number: H133F070033
Start Date: October 01, 2007
Length: 12 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $65,000

Abstract: This project identifies the major types of disability harassment and their occurrence in secondary schools for specific disability groups. The results assist in the development of intervention programs for teaching students with disabilities how to deal with harassment, general disability prevention, and sensitivity training for educators and students without disabilities. Ultimately, the project leads to the enhancement of younger individuals with disabilities to achieve higher completion rates in their formal education and assisting them to successfully secure and maintain meaningful employment.
Advanced Rehabilitation Research Program: Ed Roberts Fellowship in Disability Studies

University of California
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Berkeley, CA 94720-1870
sschweik@uclink.berkeley.edu
www-iurd.ced.berkeley.edu/Press/2003-02-12disability-studies-fellowship.htm

Principal Investigator: Susan Schweik
Public Contact: 510/642-4874 (V); 510/549-1865; 510/913-5791; Fax: 510/643-9576

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; FY 07 $0 (No-cost extension through 12/31/2007)
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

University of Florida
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Principal Investigator: William C. Mann, PhD
Public Contact: 352/392-2617; Fax: 352/846-1042

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; FY 07 $0 (No-cost extension through 7/31/2008)
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

Northwestern University
Rehabilitation Institute Research Corporation; Center for Rehabilitation Outcomes Research
345 East Superior Street
Chicago, IL 60611
a-heinemann@northwestern.edu
www.ric.org/research/fellowships.php

Principal Investigator: Allen W. Heinemann, PhD
Public Contact: 312/238-2802; Fax: 312/238-2383

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; FY 07 $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 and Engineers: An Advanced Training Program

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Principal Investigator: W. Zev Rymer, MD, PhD
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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; FY 07 $149,910

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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Principal Investigator: Gary Kielhofner, PhD 312/996-4973
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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; FY 07 $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.
Advanced Research Training Program in Psychiatric Rehabilitation

Boston University
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Principal Investigator: Zlatka Russinova, PhD; Marsha Ellison, PhD
Public Contact: 617/353-3549; Fax: 617/353-7700

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; FY 07 $0 (No-cost extension through 5/31/2008)

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.
Post-Doctoral Fellowship in Rehabilitation Outcomes and Effective Research

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School of Public Health; Health and Disability Research Institute
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Principal Investigator: Alan M. Jette, PhD 617/638-1985
Public Contact: Roseanne Monarch 617/638-1992; Fax: 617/638-1992

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; FY 07 $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
Massachusetts

Advanced Research Training Program in Psychiatric Rehabilitation

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Principal Investigator: Zlatka Russinova, PhD; E. Sally Rogers, ScD
Public Contact: 617/353-3549; Fax: 617/353-7700

Project Number: H133P070001
Start Date: September 01, 2007
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $149,986

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

The UMHS/MSU/AACIL Rehabilitation Research Training Program

University of Michigan
Department of Physical Medicine and Rehabilitation; Rehabilitation Psychology
325 East Eisenhower, Suite 100
Ann Arbor, MI 48108
dgtate@umich.edu
www.med.umich.edu/pmr/arrtp

Principal Investigator: Denise G. Tate, PhD, ABPP
Public Contact: 734/936-7052; Fax: 734/936-7048

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; FY 07 $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.
Advanced Rehabilitation Research Training Projects
Missouri

Health Activity Rehabilitation Research Training Center (HARRTC)

University of Missouri/Columbia
Department of Physical Medicine and Rehabilitation
DC046.00; One Hospital Drive
Columbia, MO 65212
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harrtc.missouri.edu

Principal Investigator: Jerry C. Parker, PhD 573/884-0042
Public Contact: Kim Holtmeyer, Grant Administrator 573/884-1499; Fax: 573/884- 4540; 573/884-3020

Project Number: H133P050005
Start Date: September 01, 2005
Length: 60 months
NIDRR Officer: Ruth Brannon
NIDRR Funding: FY 05 $150,000; FY 06 $150,000; FY 07 $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
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Scotch Plains, NJ 07076-2997
kgill@umdnj.edu

Principal Investigator: Kenneth J. Gill, PhD
Public Contact: 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; FY 07 $150,000

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 & Rehabilitation and the Veterans Affairs of New Jersey.
Advanced Rehabilitation Research Training Projects
New Jersey

Advanced Rehabilitation Research Training Center on Outcomes and Intervention Effectiveness

University of Medicine & Dentistry of New Jersey
Department of Physical Medicine and Rehabilitation, B261
150 Bergen Street
West Orange, NJ 07103
mjohnston@kmrrec.org
www.kmrrec.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: Phillip Beatty
NIDRR Funding: FY 02 $149,847; FY 03 $149,500; FY 04 $149,500; FY 05 $149,500; FY 06 $149,500; FY 07 $0 (No-cost extension through 8/31/2008)

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 Center on Neuro-musculoskeletal Rehabilitation

University of Medicine and Dentistry of New Jersey/New Jersey Medical School (UMDNJ/NJMS) and Kessler Medical Rehabilitation Research and Education Center (KMRREC)
1199 Pleasant Valley Way
West Orange, NJ 07052

Principal Investigator: Sue Ann Sisto, PT, PhD
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Project Number: H133P070007
Start Date: September 01, 2007
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 07 $149,559

Abstract: This post-doctoral research interdisciplinary training program on neuro-musculoskeletal rehabilitation provides postdoctoral research opportunities to qualified individuals interested in research, and academic careers related to rehabilitation research. Over the course of the program, nine postdoctoral fellows plan, conduct, and disseminate research, and may choose to conduct research in neuro-musculoskeletal rehabilitation. Each ARRT fellow conducts rehabilitation research for a two-year term. Anticipated measurable outcomes include published research studies, presentations at national scientific meetings, submission of grant proposals, completion of research related courses, training in techniques of dissemination, and the development of interdisciplinary research networks. In addition to participation in research activities, each fellow completes a series of core courses and directed study on interdisciplinary research, HIPAA, and the ethics for the recruitment of human subjects in rehabilitation research. The activities of each postdoctoral fellow are directed and monitored by a fellowship mentor with a demonstrated ability to implement, conduct, and disseminate the results of research investigations contributing to the advancement of rehabilitation science. Core faculty involved in the program represent departments/divisions of physical therapy, occupational therapy, rehabilitation science, biomedical engineering, biomechanics, computer science, and mechanical-aerospace engineering. The goal of this project is to provide young investigators a stimulating environment, with an atmosphere of enthusiasm tempered by rigorous methodology that instills the desire to improve the everyday lives of persons with disabilities.
Advanced Rehabilitation Research Training Projects
New 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; FY 07 $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 and 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
New York

Advanced Rehabilitation Research and Disability Policy Training Center

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Principal Investigator: James L. Bellini, PhD
Public Contact: 315/443-9655

Project Number: H133P070004
Start Date: August 01, 2007
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $149,986

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

Interdisciplinary Rehabilitation Research Training Program

University of Texas Medical Branch
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Galveston, TX 77555-1137
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www.sahs.utmb.edu/rehab

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; FY 07 $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.bcm.tmc.edu/pm&r/education/Fellowships/RehabResearch.html

Principal Investigator: Diana H. Rintala, PhD 713/791-1414, ext. 5807
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; FY 07 $0 (No-cost extension through 9/30/2008)

Abstract: The purpose of this program is to train post-doctoral fellows in the skills necessary to become independent investigators in rehabilitation. This means that the person must be competent in each major facet of the research process—problem identification, analysis of the current state of knowledge, hypothesis generation based on familiarity with applicable theory, research project design, mastery of relevant techniques and instrumentation, statistical analysis, interpretation of findings, and preparation of technical reports and publications. Through this program, fellows develop research expertise in spinal cord injury, stroke, Parkinson’s disease and amputee rehabilitation, neuropsychological rehabilitation/cognitive neuropsychology, and rehabilitation outcomes and social policy. Mentors for this program are 12 faculty members who have substantial extramural funding for research and are directors of, or affiliated with, one or more of the Department’s 8 research centers. Their disciplines include physiatry, neuropsychology, social psychology, rehabilitation counseling, nursing, rehabilitation engineering, and physical and occupational therapy. Mentors develop an individualized training plan for each fellow that includes (a) participation in research projects of the primary and secondary mentors, (b) development and implementation of an independent research project, and (c) required didactic course work. Fellows are expected to present and publish their independent research and prepare grant applications. They also attend, and submit abstracts for presentation at national professional meetings to begin to integrate into the greater rehabilitation research community. Fellows are evaluated at least every 6 months. Since the inception of the fellowship, we have recruited 5 fellows, three of whom have completed their two years, one who will finish a third year in January 2008, and one who began in September 2006. Long-term follow-up has and will occur annually for five years after the fellows leave the program to determine whether the goal of producing highly qualified, productive rehabilitation investigators has been met.
Advanced Rehabilitation Research Training Projects  
Virginia

Advanced Research Training Program

Virginia Commonwealth University  
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Box 980542  
Richmond, VA 23298-0542  
lalivingston@vcu.edu  
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; FY 07 $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 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; FY 07 $0 (No-cost extension 6/30/2008)

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.
Clinician Researchers and Engineers: Advanced Rehabilitation Research Training

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Principal Investigator: Gerald F. Harris, PhD 414/288-0698
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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; FY 07 $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.