2010 Program Directory for the National Institute on Disability and Rehabilitation Research (NIDRR)

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

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Introduction

The mission of NIDRR is to generate new knowledge and promote its effective use to improve the abilities of people with disabilities to perform activities of their choice in the community, and also to expand society’s capacity to provide full opportunities and accommodations for its citizens with disabilities. NIDRR conducts comprehensive and coordinated programs of research and related activities to assist in the achievement of the full inclusion, social integration, employment, and independent living of people with disabilities. This edition of the NIDRR Program Directory lists all projects funded by NIDRR during the 2010 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 2005-2009, NIDRR-funded research activities fall within three strategic arenas: Research and Development, Capacity Building, and Knowledge Translation. Most NIDRR grantees are universities or organizations of rehabilitation or related services. NIDRR’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 through other program mechanisms, including ADA Technical Assistance Projects, Advanced Rehabilitation Research Training Projects, Disability and Rehabilitation Research Projects, Mary E. Switzer Research Fellowships, NIDRR Contracts, NIDRR Scholars, and Small Business Innovative Research. Program descriptions are provided below.

ADA Technical Assistance Projects

NIDRR funds a network of Disability and Business Technical Assistance Centers (DBTACs) to provide information, training, and technical assistance related to the American with Disability Act (ADA) to businesses, agencies, and the public. Presently, ten regional DBTACs and one Coordination, Outreach, and Research Center (CORC) are funded under this program.

Advanced Rehabilitation Research Training Projects

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

Grants are made to institutions to recruit qualified persons, and to provide a training program that includes didactic and classroom instruction, is multidisciplinary, emphasizes scientific research meth-
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.

Mary E. Switzer Research Fellowships

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

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.

NIDRR Scholars

The NIDRR Scholars Program is designed to provide internship opportunities in disability and rehabilitation research for undergraduate students with disabilities. Each year, NIDRR provides funding for this program to projects and centers. The intent of the program is to enable students to gain practical experience in ongoing research, thereby preparing them for careers in disability and rehabilitation research. The duration of the internship is one semester and the students are required to work 20 hours per week.

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.

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.

Rehabilitation Research and Training Centers

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

Small Business Innovation Research

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

NARIC and the NIDRR Program Directory

The Program Directory is compiled by the National Rehabilitation Information Center (NARIC). NARIC functions as a specialized library, providing the public with information on and referral services to help locate disability and rehabilitation research and services. 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. Grantees submit copies of NIDRR-supported research products to NARIC and they are added to the reference collection and REHABDATA data-
base. 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 13, 2010. This directory may include projects that have passed the indicated extension date.

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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

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Principal Investigator: Susan Foley, PhD
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Project Number: H133B070001
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Phillip Beatty, PhD
NIDRR Funding: FY 07 $649,999; FY 08 $649,999; FY 09 $650,000; FY 10 $650,000; FY 11 $650,000

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 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 and 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 knowledgebase 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.
Improved Employment Outcomes for Individuals with Psychiatric Disabilities

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

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

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

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

RRTC on Employment Outcomes for Individuals Who Are Blind or Visually Impaired

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Principal Investigator: Mary-Kay Belant; Brenda Cavenaugh, PhD; Adele Crudden; Marty Giesen; B.J. LeJeune; Michele McDonnell; William Sansing

Public Contact: 662/325-2001

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

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

Rehabilitation Research and Training Center on Disability in Rural Communities

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

Abstract: The RTC: Rural at The University of Montana conducts research that advances a science of rural disability and rehabilitation, improves the health of rural Americans with disabilities, and increases their opportunities for employment and community integration. The research and training program provides contextually appropriate, evidence-based solutions that rely on resources available in most rural communities, while respecting their diversity and values. The project: (1) conducts detailed statistical analyses of state vocational rehabilitation (VR) data to identify promising, evidence-based rural service practices; (2) develops and evaluates telecommunications protocol for providing rural VR services; (3) conducts a longitudinal study to determine why rural VR clients might exit services prematurely, and to evaluate retention strategies; (4) evaluates rural health promotion strategies that could lead to improved employment outcomes; (5) conducts a randomized controlled trial to evaluate ways to improve rural consumers’ use of health care services; (6) conducts a randomized controlled trial to evaluate a mental health peer support model for rural individuals with mobility or sensory impairments; and (7) identifies strategies to improve rural transportation. The knowledge translation program disseminates research findings and sparks the use of evidence-based rural practices by policy makers, advocates, service providers, and persons with disabilities. The project web site, which is a central component of the dissemination program, includes the first rural disability “wiki,” building a rural disability knowledge base. The project includes three focused training initiatives: (1) promoting economic development in rural southwest Texas; (2) facilitating linkages between Utah Small Business Development Centers and VR services; and (3) implementing the Living Well with a Disability health promotion program in rural South Carolina. The project also includes an innovative, web-based state-of-the-science conference on rural disability and rehabilitation.
Rehabilitation Research and Training Centers (RRTCs)
New Hampshire

RRTC on Employment Policy and Measurement

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

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

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

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Project Number: H133B040013
Start Date: December 01, 2004
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 04 $700,000; FY 05 $700,000; FY 06 $700,000; FY 07 $700,000; FY 08 $700,000; FY 09 $0 (No-cost extension through 11/30/2010)

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. EP-RRTC’s immediate purpose is to contribute to the success of the transition from caretaker policies to economic self-sufficiency policies. The immediate target population consists of people who influence disability policy: people with disabilities; federal, state, and local policymakers, administrators, and regulators; advocates; service providers; researchers and policy analysts; the media; employers, unions, insurers; and the general public. 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; participation in the 2008 conference of the Interagency Subcommittee on Employment; organization and delivery of disability policy research sessions at the Association of Public Policy Analysis and Management (APPAM) fall meetings, and technical assistance to consumers on policy research and evaluation methods and data. Project activities include writing briefs about the evaluations of promising policy innovations, consulting with a wide array of constituents to obtain feedback about an array of policy options that merit further consideration, and collaborating with Social Security Administration staff to develop state-level series on employment outcomes for Social Security Disability Insurance and Supplemental Security Income beneficiaries. Dissemination activities include: organization and participation in five disability policy research sessions at the 2007 fall conference of the APPAM and a reception for disability researchers; presentations in the 2008 Interagency Subcommittee on Employment Conference on interagency employment research; an accessible website for the dissemination of outputs (e.g., policy briefs, reports, and materials); presentations and dissemination of outputs at conferences; and publication of the research papers in peer-reviewed journals.
Rehabilitation Research and Training Centers (RRTCs)
New York

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

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

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

Rehabilitation Research and Training Center on Employment Service Systems

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Project Number: H133B040014
Start Date: October 01, 2004
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 04 $699,981; FY 05 $699,973; FY 06 $699,990; FY 07 $849,982; FY 08 $699,975; FY 09 $0 (No-cost extension through 9/30/10); FY 10 $0 (No-cost extension through 04/01/2011)

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 disabilities 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 (VR) 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 VR 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 Centers (RRTCs)  
New York

Rehabilitation Research and Training Center: Individual-Level Characteristics Related to Employment among Individuals with Disabilities

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Project Number: H133B100011  
Start Date: October 01, 2010  
Length: 60 months  
NIDRR Officer: David W. Keer  
NIDRR Funding: FY 10 $850,000; FY 11 $850,000; FY 12 $850,000; FY 13 $850,000; FY 14 $850,000

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

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

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

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

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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; FY 08 $450,000; FY 09 $0 (No-cost extension through 12/31/2010)

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
Maryland

Center for Transition to Employment for Youth with Disabilities

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

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

Research and Technical Assistance Center on Vocational Rehabilitation Program Management

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

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

Vocational Rehabilitation: Transition Services that Lead to Competitive Employment Outcomes for Transition-Age Individuals with Blindness or Other Visual Impairments

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Project Number: H133A070001
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Joseph A. DePhillips
NIDRR Funding: FY 07 $450,000; FY 08 $450,000; FY 09 $450,000; FY 10 $0 (No-cost extension through 09/30/2011)

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, Social Security Administration representatives, and others; interviews with consumers; vocational rehabilitation 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.
Disability and Rehabilitation Research Projects  
New York

Demand-Side Employment Placement Models

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Project Number: H133A060033  
Start Date: July 01, 2006  
Length: 60 months  
NIDRR Officer: Shelley Reeves  
NIDRR Funding: FY 06 $500,000; FY 07 $500,000; FY 08 $500,000; FY 09 $500,000; FY 10 $500,000

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

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

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

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

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

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

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

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

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Project Number: H133G090170
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 09 $199,769; FY 10 $199,869; FY 11 $199,145

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

The Nexus of Employment, Health and Disability: A Study of Health Status and Quality of Life among Medicaid Buy-In Participants

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

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

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Project Number: H133G100176
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 10 $200,000; FY 11 $200,000; FY 12 $200,000

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

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

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

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

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

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

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

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

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

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Project Number: H133G100169
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 10 $197,359; FY 11 $197,359; FY 12 $197,359

Abstract: This project tests the wider applicability of valid and methodologically sound processes for assessing the “return on investment” (ROI) within individual state vocational rehabilitation (VR) agencies, using models developed in Virginia. Additionally, this project expands on the preliminary work of the collaboration between the Virginia Department of Rehabilitative Services (DRS) and the Bureau of Disability Economics Research (BDER) at the University of Richmond. Having established a longitudinal data repository for the purpose of conducting long-term employment outcome evaluations, the DRS and BDER repository contains data on VR program participants from the administrative records of both DRS and the state. Project development includes several major components: (1) Developing and testing a ROI model used in identifying the necessary components for a sound ROI model for VR, using Virginia data to develop VR-specific outcome models, and validating these models with other state VR agencies, including the Virginia Department for the Blind and Vision Impaired and the Maryland Division of Rehabilitation Services, using data from those states’ administrative records; (2) developing model interagency agreements and protocols for accessing employment and earnings data from existing state administrative records and from Social Security Administration, testing those models with the partner states, and providing technical assistance in their use; and (3) developing and testing guidance documents, and providing technical assistance to partner state VR agencies, to conduct ROI analyses with their own states’ administrative data.
Maximizing health and function among people with disabilities is critical to the achievement of NIDRR’s mission and the associated higher-order goals of employment and community participation. Functional ability reflects the complex interaction between individuals and the environments in which they live. Accordingly, NIDRR conceptualizes and examines issues of health and function at the individual and systems levels. Individual level research focuses on the development and testing of new interventions that improve functional and health outcomes for individuals. At the systems level, NIDRR-supported research focuses on the organization, and delivery of health care and medical rehabilitation services.

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Rehabilitation Research and Training Centers (RRTCs)
California

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

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

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

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

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Project Number: H133B 090002
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 09 $799,995; FY 10 $799,998; FY 11 $799,998; FY 12 $799,999; FY 13 $800,000

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

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www.rrtc-stroke.org

Principal Investigator: Elliot J. Roth, MD 312/238-4637
Public Contact: Linda Lovell, Project Coordinator 312/238-6197; Fax: 312/238-1417

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

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

Rehabilitation Research and Training Center on Interventions for Children and Youth with TBI

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

Abstract: This project addresses the need for interventions for children and youth with traumatic brain injury (TBI). Interventions designed for this population must: (a) target the continuum of service delivery; (b) address the changing needs of the population; and most importantly, (c) include tools, training activities, and dissemination mechanisms for all of the “everyday” people who support children and youth. Project research identifies a reliable and valid measurement battery for assessing functional improvements arising from TBI interventions; and initiates a national, shared database of TBI outcomes data. This RRTC: (1) evaluates specific interventions to improve cognitive, behavioral, and psychosocial outcomes with a range of children and youth with TBI through randomized clinical trials; (2) evaluates the effectiveness of the validated interventions in natural settings; and (3) uses multi-method evaluations of the efficacy of training, technical assistance, and dissemination activities to verify the utility of the final products.
Abstract: The vision of the RRTC is to contribute to the reduction of health disparities for persons with disabilities through an integrated program of research, training, technical assistance, and dissemination. The Center has three inter-related strands of work to address its three intended outcomes/goals: (1) identify strategies to overcome barriers that impede access to routine healthcare for individuals with disabilities; (2) identify interventions in areas such as exercise, nutrition, pain management, or complementary and alternative therapies that promote health and wellness and minimize the occurrence of secondary conditions for persons with disabilities; and (3) develop improved status measurement tool(s) to assess health and well-being of individuals with disabilities regardless of functional ability. In order to achieve these outcomes, the RRTC conducts a coordinated program of research and training activities using a logic model framework. RRTC projects summarize and validate existing research findings on barriers to health care access as well as rigorously test and compare new strategies to overcoming identified barriers. The RRTC also examines and evaluates the practices of exemplary generic and specialized health promotion programs for people with disabilities in order to create an evidence-based set of evaluation and planning criteria. In addition, the RRTC organizes and uses panels to assess current health status measurement tools and develops or refines measures to more accurately reflect the health and well-being of people living with disabilities. Throughout these activities the RRTC disseminates informational materials and provide technical assistance to individuals with disabilities, their representatives, providers, and other interested parties.
Rehabilitation Research and Training Center on Secondary Conditions in Individuals with SCI

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

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

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

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

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

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

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

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Principal Investigator: Carolee J. Winstein, PhD, PT (USC); Philip Requejo, PhD (Rancho Los Amigos)
323/442-2903
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Project Number: H133E080024
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 08 $950,000; FY 09 $950,000; FY 10 $950,000; FY 11 $950,000; FY 12 $950,000

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

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

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

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

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Project Number: H133A070038
Start Date: October 07, 2007
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 07 $426,720; FY 08 $426,720; FY 09 $426,720; FY 10 $426,720; FY 11 $426,720

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

UCHSC Burn Model System Data Coordination Center (BMS/DCC)

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Colorado School of Public Health
Department of Biostatistics and Informatics
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Principal Investigator: Dennis C. Lezotte, PhD
Public Contact: Erin Delong, Project Coordinator 303/724-4388; Fax: 303/724-4491

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

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

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

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

Project Number: H133A060103
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Phillip Beatty, PhD
NIDRR Funding: FY 06 $2,200,000; FY 07 $900,000; FY 08 $900,000; FY 09 $900,000; FY 10 $900,000

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

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Principal Investigator: Cynthia Harrison-Felix, PhD
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Project Number: H133A060038
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Phillip Beatty, PhD
NIDRR Funding: FY 06 $625,000; FY 07 $625,000; FY 08 $625,000; FY 09 $625,000; FY 10 $625,000

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

The Rocky Mountain Regional Brain Injury System (RMRBIS)

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

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

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Project Number: H133A060066
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 06 $250,000; FY 07 $250,000; FY 08 $250,000; FY 09 $0 (No-cost extension through 10/31/2010)

Abstract: This project examines the antecedents and consequences of obesity using the International Classification of Functioning and Disability 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 the 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
Illinois

Midwest Regional Traumatic Brain Injury Model System: Innovative Approaches to Improve Cognition, Function, and Community Living

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Principal Investigator: Elliot J. Roth, MD; Felise Zollman, MD; 312/238-4637; 312/238-8045
Public Contact: Kwaben Komai, Project Manager 312/238-0720; Fax: 312/238-1417

Project Number: H133A080045
Start Date: October 01, 2008
Length: 48 months

NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 08 $418,139; FY 09 $418,528; FY 10 $418,143; FY 11 $418,395
Other Funding: FY 09 $0 Rehabilitation Institute of Chicago

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

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

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

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

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

Abstract: The Johns Hopkins University Burn Injury Model System (JHU-BIMS) includes three projects: one clinical trial, one controlled clinical trial (RCT), and one multi-site collaborative study. The first site-specific project is a clinical trial 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 shows 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.
Michigan Traumatic Brain Injury Model System (SEMTBIS)

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Project Number: H133A080044
Start Date: October 01, 2008
Length: 48 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 08 $438,074; FY 09 $437,676; FY 10 $437,855; FY 11 $438,138

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

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

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

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

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

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

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Project Number: H133A031713
Start Date: January 01, 2004
Length: 48 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 03 $599,862; FY 04 $599,994; FY 05 $599,994; FY 06 $599,994; FY 07 $599,994; FY 08 $0 (No-cost extension through 12/31/2009); FY 09 $0 (No-cost extension through 12/31/2010)

Abstract: This project conducts a prospective double-blind randomized controlled trial of amantadine hydrochloride on disorders of consciousness. Severe traumatic brain injury may result in severe disorders of consciousness (DOC), including coma, the vegetative state (VS) and the minimally conscious state (MCS). The longer the duration of impaired consciousness, the worse the ultimate functional prognosis, with only about half of those individuals who remain unconscious for a month post-TBI regaining consciousness within a year. The severe functional disability associated with prolonged DOC places enormous emotional, financial, ethical, and logistical strains on caregivers and major resource demands on society. In this study, seven facilities (including two with TBI Model Systems designations) that participated in a multi-center research network called the Consciousness Consortium, join with four additional brain injury rehabilitation centers (two in the U.S. and two in Europe), and a Data Coordinating Center at Columbia University. 184 patients who remain in VS or MCS 4 to 16 weeks post-TBI are randomized in a stratified fashion to 4 weeks of amantadine (200 to 400 mg/day) versus placebo, followed by a two-week washout period. The Disability Rating Scale is the primary dependent variable with the Coma Recovery Scale-Revised serving as a supplement-ary 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. The project includes intensive education of caregivers and clinicians about this study to address perceived barriers to enrollment and also uses the information gathered during these interactions to develop consumer-oriented dissemination activities. Project outputs and findings are disseminated to appropriate consumer and professional audiences using a variety of formats and include: (1) improved family member understanding of DOC which facilitates improved adjustment and caregiving and (2) clear guidance to clinicians regarding the effectiveness of amantadine for persons with DOC.
Disability and Rehabilitation Research Projects
New Jersey

JFK-Johnson Rehabilitation Institute TBI Model System

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

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

Northern New Jersey Traumatic Brain Injury System (NNJTBIS)

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

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

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

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

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

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

Carolinas Traumatic Brain Injury Rehabilitation and Research System

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Project Number: H133A070042
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 07 $438,571; FY 08 $438,571; FY 09 $438,571; FY 10 $438,571; FY 11 $438,571

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

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

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

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

Ohio Regional TBI Model System

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

Abstract: 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 The Ohio State University. 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.
Individualized Planning for the First Year Following Acute Rehabilitation Project

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

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

Health and Health Care Disparities Among Individuals with Disabilities

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Project Number: H133A080031
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 08 $450,000; FY 09 $450,000; FY 10 $450,000; FY 11 $450,000; FY 12 $450,000

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

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

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

North Texas Burn Rehabilitation Model System (NTBRMS)

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

Abstract: The North Texas Burn Rehabilitation Model System (NTBRMS) includes one collaborative
research module project entitled “Long-Term Follow-up of the Burn Model System National Database
Sample (LTF-NDS)” and two site specific research studies entitled “Biomechanical Properties of Burn
Scar” and “Efficacy of Social Interaction Skills Training Post Burn Injury.” Collaboration occurs on many
levels at the NTBRMS. Clinical collaboration is the hallmark of the burn team, which includes individuals
from several institutions who work together seamlessly as well as collaboration with our rural care providers
through outreach clinics. Research collaboration occurs locally with the surgeons and academic computing
and nationally with the other model systems. The evaluation plan specifically focuses on the overall objec-
tives 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 Knowl-
edge Translation Center (MSKTC) by participating in its systematic reviews of evidence and facilitating
knowledge management by identifying the information needs and barriers among the various stakeholders
both at national and local levels.
Disability and Rehabilitation Research Projects
Texas

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

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

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

Pediatric Burn Injury Rehabilitation Model System

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

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

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

Abstract: The Texas TBI Model System of TIRR conducts a program of research, dissemination activities, and clinical care designed to address social relationships and to improve outcomes for persons with traumatic brain injury (TBI). Research activities include: (1) contributions to the TBI Model Systems National Database, (2) a collaborative, multi-center, research module project on sexuality after TBI, and (3) a local project on social communication difficulties after TBI. A collaborative project on sexuality determines the frequency, type, and severity of changes in sexual functioning after TBI. As part of this project, researchers conduct the first randomized, clinical trial of an intervention to increase satisfaction with sexual functioning and comfort level in discussing sexual issues for persons with TBI and their partners. A local project on social communication conducts a randomized clinical trial of an intervention to improve social communication skills and social integration for persons with TBI, with the largest sample size of any similar study and one of only two randomized controlled trials conducted in this area for over 20 years.
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; FY 08 $426,720; FY 09 $426,720; FY 10 $426,720; FY 11 $426,720

Abstract: This project utilizes rigorous scientific methods to examine the benefits of intervention for survivors of traumatic brain injury (TBI) and their families before and after inpatient rehabilitation discharge. Projects at the Model System focus on both survivors and families. One study is a randomized controlled trial to examine the efficacy of a structured approach to the treatment of acute cognitive and neurobehavioral problems. A second study is a randomized controlled trial to examine the benefits of an intervention program for family crisis and support. Traumatic Brain Injury Model Systems (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.
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; FY 08 $600,000; FY 09 $0 (No-cost extension through 11/30/2010)

Abstract: This project evaluates the effect of scheduled telephone intervention (STI) 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 1 year after traumatic brain injury (TBI). This a low-cost, easily-implemented intervention is trialed in three states. 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 2 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; FY 08 $899,982; FY 09 $899,974; FY 10 $895,874

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 18 to 65 years old and 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 percent 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. This is a collaborative project with the Northwest Regional Model Spinal Cord Injury System.
University of Washington Burn Model System

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

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

University of Washington Traumatic Brain Injury Model System

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

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

UAB Model Spinal Cord Injury Care System

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Project Number: H133N060021
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 06 $474,471; FY 07 $474,471; FY 08 $474,471; FY 09 $474,417; FY 10 $474,417

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.
Spinal Cord Injury Model 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; FY 08 $489,000; FY 09 $489,000; FY 10 $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 spinal cord injury (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 versus 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.
Spinal Cord Injury Model Systems
District of Columbia

National Capital Spinal Cord Injury Model System

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Project Number: H133N060028
Start Date: October 01, 2006
Length: 60 months

NIDRR Officer: Kenneth D. Wood, PhD

NIDRR Funding: FY 06 $449,417; FY 07 $449,417; FY 08 $449,417; FY 09 $449,417; FY 10 $449,417

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

Southeastern Regional Spinal Cord Injury Model System at Shepherd Center

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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; FY 08 $474,417; FY 09 $474,417; FY 10 $474,417

Abstract: This 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; and (2) Development and Validation of a Clinical Measure of Wheelchair Seat Cushion Degradation. The Southeastern Regional Spinal Cord Injury Model System at Shepherd Center admits approximately 200 individuals annually with acute onset paralysis secondary to spinal cord injury (SCI), 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 also manages a collaborative data collection research module entitled Impact of SCI on Labor Market Participation.
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; FY 08 $484,000; FY 09 $482,162; FY 10 $467,189

Abstract: The Spinal Cord Injury Rehabilitation Program at the Rehabilitation Institute of Chicago and the Acute Spinal Cord Injury Program at Northwestern Memorial Hospital demonstrate the ongoing, comprehensive, multidisciplinary services that are provided to individuals with spinal cord injury (SCI) which allow these individuals to optimize their rehabilitation outcomes and enhance their ability to return to productive, independent living in the community. In order to contribute to the improvement of outcomes for persons with SCI, the 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 National Spinal Cord Injury Statistical Center, and collect follow-up data on individuals enrolled between 1973 and 2000.
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; FY 08 $464,417; FY 09 $464,417; FY 10 $464,417

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

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Project Number: H133N060032
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $457,417; FY 07 $457,417; FY 08 $457,417; FY 09 $457,417; FY 10 $457,417

Abstract: The purpose of this project is to conduct research, education, and data collection about SCI while promoting a continuum of care including comprehensive rehabilitation and community participation services. The project is designed to generate new knowledge through research, development, and demonstration designed to improve outcomes for persons with spinal cord injury (SCI). A site-specific randomized clinical trial study is conducted in conjunction with the University of Michigan Department of Psychiatry to evaluate the efficacy of a pharmacological agent, Venlafaxine HCl, to manage mild to moderate symptoms of depression. The drug’s effects on pain are also are under assessment. A second, related study addresses psychosocial symptoms and pain among people with SCI during initial rehabilitation. The University of Michigan Spinal Cord Injury Model System (UMSCIMS) also participates in five modular studies: 1) Identifying the Best Measure of Participation, led by the Rocky Mountain Regional Spinal Injury System; 2) Measuring Quality of Life in Spinal Cord Injury: The Next Generation of Instruments; 3) The UAB Motor Recovery Index Study, led by the University of Alabama, Birmingham; 4) Development and Validation of the Thoracic Lumbar Control Scale to Measure Strength and Coordination of Trunk Muscles, led by The Institute for Rehabilitation and Research; and 5) Natural History of Depression Study, led by the University of Washington. The project continues to operate an efficient data collection system, facilitating research and contributions to the National Spinal Cord Injury Statistical Center. It has also been active in dissemination activities, to audiences of SCI consumers, clinicians, and researchers.
Spinal Cord Injury Model 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; FY 08 $457,417; FY 09 $457,417; FY 10 $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: (1) an innovative rehabilitation intervention utilizing technology to prevent respiratory disease in persons with SCI; (2) a collaborative module that adapts, develops, and validates an innovative and promising outcome system for use in SCI intervention research; (3) 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, the Kessler Institute for Rehabilitation, the University of Medicine and Dentistry of New Jersey-The New Jersey Medical School, and University of Medicine and Dentistry of New Jersey-University Hospital.
Spinal Cord Injury Model 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; FY 08 $452,541; FY 09 $452,541; FY 10 $452,541

Abstract: The purpose of the Mount Sinai Spinal Cord Injury Model System (MS-SCI-MS) is to (1) demonstrate and evaluate a multidisciplinary system of rehabilitation care for persons with spinal cord injury (SCI) in the New York City (NYC) 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. There are three major components of the MS-SCI-MS: (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, which ensures the early and safe extrication of individuals with SCI from the site of injury; (2) acute medical/surgical care at Elmhurst Hospital Center or at Mount Sinai Hospital (MSH), both of which provide state-of-the-art emergency and medical/surgical services; and (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 SCI 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, constitutes 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.
Spinal Cord Injury Model Systems
Ohio

Northeast Ohio Regional Spinal Cord Injury System

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Project Number: H133N060017
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $449,417; FY 07 $449,417; FY 08 $449,417; FY 09 $449,417; FY 10 $449,417

Abstract: The Northeast Ohio Regional Spinal Cord Injury System (NORSCIS) at MetroHealth Rehabilitation Institute of Ohio, in collaboration with Case Western Reserve University and the Cleveland FES Center, conducts research to further develop the effectiveness of an innovative Model Spinal Cord Injury Care System and to demonstrate how the application of advanced assistive technology can benefit persons with disabilities. Efficiency and effectiveness of care (and research potential) are enhanced as all components of the continuum of care (from trauma/emergency care to acute medical/surgical treatment, inpatient and outpatient rehabilitation, and community support services) are all available on the NORSCIS campus. A site-specific project studies advances in functional electrical stimulation (FES) technology to document improvements in function, health, and wellness. An innovative focus on trunk muscle stimulation targets specific clinical problems, including seated stability and mobility, reachable workspace, and pulmonary function. A collaborative research project with the University of Pittsburgh Model Center on Spinal Cord Injury, is directed at testing and collecting the data needed to understand the impact of coverage changes and to fully explore the issue of disparity in assistive technology for mobility prescription. A collaborative project with Craig Hospital involves the development of a reliable, valid measurement tool to assess community participation. The goal of these hypothesis-driven research and demonstration projects is to develop and measure the effectiveness of new intervention strategies at both the individual patient level and overall systems of care for persons with spinal cord injury.
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; FY 08 $464,417; FY 09 $464,417; FY 10 $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 SCI Statistical Center 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 the Upper Extremity Test, an objective test of arm and hand functional capabilities needed to conduct clinical trials for neurological recovery in SCI; (3) participate in a collaborative module on investigating the impact of policy changes on customizability and features of wheelchairs and investigate distance traveled, time spent active and speed traveled in a wheelchair and its relationship to wheelchair customizability and features, wheelchair breakdown, and quality of life; (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.
The University of Pittsburgh Model Center on Spinal Cord Injury (UPMC-SCI) continues its research focus on assistive technology (AT) for mobility. Pilot data collected during the previous funding cycle highlighted disparity in wheelchair prescription. Individuals from minority groups and people with low socioeconomic status received less and lower quality equipment. So that interventions can be developed, the project continues and expands this research to delve into the reasons for disparity. In addition, it investigates the impact of recent Centers for Medicare and Medicaid Services changes for AT reimbursement. These changes will likely have a critical impact on the AT provided to individuals with spinal cord injury (SCI). Finally, the project develops a tool to determine how far, how fast, and when people travel in their wheelchairs. This data is related to the type of wheelchairs used, to the number of wheelchair failures, and to measures of participation. From these findings, researchers determine how the wheelchair prescribed impacts participation, and if greater use leads to greater failures. This data is used to push for improvements in manufacturing and changes in coverage. UPMC-SCI also conducts a randomized, controlled trial to determine if following the Consortium of Spinal Cord Injury Medicine Guidelines on Upper Limb Preservation leads to decreased pain. These guidelines are applied to acutely injured patients who are followed for the first six months after injury. Validation of the guidelines’ effectiveness helps ensure that they become the standard of care across the country. SCI care at the University of Pittsburgh is provided in a multidisciplinary manner with a high level of communication among the constituent services. The project has fully implemented a system of continuity of treatment that begins with the emergency response at the scene of injury and continues with comprehensive treatment and rehabilitation from medical/surgical to acute stage rehabilitation through utilization of assistive technology services and vocational rehabilitation. UPMC-SCI continues to enroll and collect long-term follow-up data on SCI subjects for the National Spinal Cord Injury Statistical Center.
Spinal Cord Injury Model Systems
Texas

Texas Model Spinal Cord Injury System

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Project Number: H133N060003
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $464,417; FY 07 $464,417; FY 08 $464,417; FY 09 $464,417; FY 10 $464,417

Abstract: The Texas Model Spinal Cord Injury System (TMSCIS) provides services along the entire continuum of care for spinal cord injury (SCI) from emergency medical service to long-term follow-up and management of secondary conditions. The TMSCIS includes a site-specific research project that is designed to provide high level evidence of the efficacy of a novel treatment to prevent bladder 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.
Spinal Cord Injury Model Systems
Washington

Northwest Regional Spinal Cord Injury System

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Project Number: H133N060033
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 06 $464,417; FY 07 $464,417; FY 08 $464,417; FY 09 $464,417; FY 10 $464,417

Abstract: The University of Washington’s Northwest Regional Spinal Cord Injury System (NWRSCIS) serves a critical mass of patients with spinal cord injury (SCI) and has all the necessary disciplines to provide state-of-the-art medical, surgical, and rehabilitation care. One site-specific project is a randomized controlled intervention study evaluating the effect of proactive, structured, telephone-based counseling and care management on rehospitalization rate and quality of life during the first year after discharge from acute rehabilitation. This study builds upon successful experiences with telephone counseling for both people with traumatic brain injury and multiple sclerosis. This research is particularly important because the lifestyle changes and health care behaviors required for successful living after SCI are tremendously challenging, rates of rehospitalization are high, and many people (especially in rural regions) lack ready access to knowledgeable advice, behavior change support, and specialty care sufficient to maintain their health. A modular project studies the natural history of major depression under conditions of usual care during the first year after SCI. This project establishes reliable and valid means of screening and diagnosing major depression soon after SCI. It examines the impact of depression on rehabilitation efficiency and compares the effect of standard treatment to clinical practice guideline level care of depression. This study describes depression treatment preferences among people with SCI and lays the foundation for a multi-site clinical trial. The NWRSCIS also includes a collaborative, multisite, randomized, double-blind, placebo controlled trial of venlafaxine XR (Efflexor XR) in adults with SCI and major depressive disorder (MDD). The purpose of the study is to examine the efficacy and tolerability of venlafaxine XR as a treatment for MDD. NWRSCIS contributes to the national statistics database at the University of Alabama at Birmingham.
A New Measure of Subjective Fatigue in Persons with Traumatic Brain Injury

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Project Number: H133G080168
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 08 $182,918; FY 09 $170,842; FY 10 $191,997

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

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Project Number: H133G080165
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 08 $189,382; FY 09 $196,670; FY 10 $179,385

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

Developing a Relevant Instrument to Assess Caregiver Distress and Benefit in Spinal Cord Injury

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

Abstract: This project employs a combined qualitative and quantitative methodology to develop a relevant instrument to assess caregiver distress and benefit in spinal cord injury (SCI). The project uses a focus group methodology to identify areas of concern for family members providing assistance to a loved one with SCI. Detailed qualitative analysis of the focus group transcripts is used to identify themes and concepts that may be operationalized into questions for a new instrument to assess caregiver distress and benefit in SCI. The instrument is pilot tested with 250 family SCI caregivers. Items for a final instrument are selected following factor analysis and Rasch analysis. The lived experience of SCI caregiving, as expressed by the caregivers themselves, helps identify what factors are associated with positive or negative experiences for SCI family caregivers. From this rich contextual information, a new measure to assess distress and benefit in SCI caregiving is developed. Led by Craig Hospital in Englewood, Colorado, the project is a collaborative research effort with three other prominent SCI rehabilitation facilities: University of Alabama at Birmingham, Santa Clara Valley Medical Center in San Jose, California, and the Kessler Medical Rehabilitation Research and Education Center/Kessler Foundation in West Orange, New Jersey.
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: Joyce Y. Caldwell
NIDRR Funding: FY 07 $197,907; FY 08 $196,697; FY 09 $198,370; FY 10 $0 (No-cost extension through 09/30/2011)

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 to 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.
Field Initiated Projects (FIPs)
Florida

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

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Project Number: H133G080150
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 08 $199,738; FY 09 $199,922; FY 10 $198,594

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

Sleep Disordered Breathing in Persons with Chronic Tetraplegia:
Characterization and Intervention

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Project Number: H133G100217
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 10 $199,711; FY 11 $199,611; FY 12 $197,934

Abstract: This project investigates the prevalence and treatment of sleep-disordered breathing (SDB) in adults with spinal cord injury (SCI) resulting in tetraplegia. SDB is characterized by sleep fragmentation with cyclical oxygen desaturation and daytime sleepiness. Consequences of SDB include decline in physical performance and mental alertness, impaired memory and intellectual processing, mood disturbances characterized by anxiety and depression, decrease health-related quality of life (HRQoL), and increased risk for vehicular or occupational injury. Despite considerable advancements in understanding and treating SDB; including favored use of positive airway pressure (PAP), an evidence base sufficient to warrant routine evaluation and treatment of SDB is lacking for those with SCI. This project conducts a hypothesis-driven study with three specific goals: (1) describing the clinically-relevant determinants of sleep quality in persons with chronic tetraplegia, (2) assessing clinical features and co-morbid risks associated with SDB in persons with tetraplegia, and (3) determining if interventions using PAP reduces health risks and improves HRQoL in persons with tetraplegia having extant SDB. Researchers use a regression model to test whether SDB is associated with daytime sleepiness, anthropometrics (weight, height, neck circumference, and body/abdominal fat), age, and supine forced vital capacity. Researchers also test if periodic limb movement is a cause for poor sleep quality, and whether individuals with moderate to severe SDB have greater cardiometabolic (CM) risks (insulin resistance, vascular inflammation, and endothelial dysfunction) than cohorts having mild to absent SDB. In a third study, 25 persons with established moderate to severe SDB undergo a titration procedure to establish airway pressures required for PAP therapy, use PAP nightly for three months, and undergo retesting for CM risks and HRQoL to test improvements after PAP treatment. This research enhances the understanding of prevalence, causes, co-morbidities, predictors, and treatments for SDB, and better distinguishes the association of SDB on disease-accelerating risks and QoL. Project outcomes are utilized in producing an evidence based for customary evaluation and treatment that fosters changes in medical practice patterns, while bringing attention to both stakeholders with SCI and their health providers of both apparent and obscure hazards of SDB.
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; FY 08 $194,973; FY 09 $195,411; FY 10 $0 (No-cost extension through 06/30/2011)

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.
Evaluating the Effects of Activity-Based Therapy for Individuals with Chronic Spinal Cord Injury

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Project Number: H133G080031
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 08 $200,000; FY 09 $200,000; FY 10 $200,000

Abstract: This project evaluates the effects of an activity-based therapeutic exercise program for individuals with chronic spinal cord injury (SCI) using Beyond Therapy—a program of state-of-the-art therapeutic exercise technology. Project goals include: (1) completing a randomized, experimental-control group comparison examining the effects of participation in activity-based therapy on neurological functioning, independence in activities of daily living, and community participation; (2) conducting further between-group and within-subject analyses to determine variations in outcomes as a function of level of injury and ASIA classification; (3) identifying factors associated with continued compliance with a self-directed maintenance program designed to sustain any gains in neurological functioning achieved from participation in activity-based therapy; and (4) examining the relationship between level of compliance with the maintenance program and preservation of gains achieved over a 12-month period. Research results are used to develop activity-based exercises for individuals with SCI that can be implemented in community-based fitness centers. Additionally, the project develops a training and technical assistance program to assist community fitness centers in implementing activity-based therapy programs.
Augmenting Language Therapy for Aphasia: A Randomized Double-Blind Placebo-Controlled Trial of Levodopa in Combination with Speech-Language

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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; FY 08 $199,772; FY 09 $199,465; FY 10 $0 (No-cost extension through 09/30/2011)

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 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; FY 08 $142,688; FY 09 $112,550; FY 10 $0 (No-cost extension through 09/30/2011)

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.
Noninvasive Examination of ALS Using Surface EMG

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

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

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

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

Weight Loss by Individuals with Physical Disabilities

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Project Number: H133G090230
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 09 $199,801; FY 10 $199,992; FY 11 $199,674

Abstract: This project conducts a randomized trial to evaluate weight loss and weight maintenance using both sides of the energy balance equation (i.e. energy intake and energy expenditure) in overweight and obese individuals with physical disabilities who have impaired mobility. Researchers compare participants who use the modified Stop Light Diet (SLDm) with participants who follow the National Heart, Lung and Blood Institute (i.e., standard nutrition and intake recommendations or usual care (UC)). Following a 6-month period of reduced energy intake (weight loss), both groups are placed on a diet with sufficient energy to maintain weight (i.e., weight maintenance) for an additional 12 months. Both groups are encouraged to participate in a physical activity program appropriate for their physical abilities throughout the 18 months. Program intervention and participant acceptance are evaluated through extensive process analysis of quantitative and qualitative data. The project also tracks and analyzes the health care utilization patterns and secondary health outcomes of participants in both the SLDm and UC diets using secondary data analysis of Kansas Medicaid claims data.
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: Joyce Y. Caldwell
NIDRR Funding: FY 07 $199,995; FY 08 $199,996; FY 09 $199,983; FY 10 $0 (No-cost extension through 09/30/2011)

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; FY 08 $199,913; FY 09 $199,964; FY 10 $0 (No-cost extension through 9/30/2011)

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 SCI. 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.
Field Initiated Projects (FIPs)  
Michigan

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

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Project Number: H133G080064  
Start Date: October 01, 2008  
Length: 36 months

NIDRR Officer: Kenneth D. Wood, PhD  
NIDRR Funding: FY 08 $199,078; FY 09 $194,402; FY 10 $199,543

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

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

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Project Number: H133G080023
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 08 $200,000; FY 09 $200,000; FY 10 $200,000

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

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

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Project Number: H133G070138
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Phillip Beatty, PhD
NIDRR Funding: FY 07 $199,830; FY 08 $199,414; FY 09 $199,910; FY 10 $0 (No-cost extension through 09/30/2011)

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

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

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

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

Abstract: This project addresses the need for training and support for women with intellectual disabilities to understand the importance of cervical and breast cancer screening, to assert their needs and concerns to their health care providers, and to manage their anxiety related to their health care needs. The Women Be Healthy intervention is designed to empower women with intellectual disabilities to improve their self-determination and knowledge related to preventive health care practices including cervical and breast cancer screening, and to enable these women to become active and equal partners in their health care. This project longitudinally tests the intervention by examining its impact on four outcomes: (1) women’s self-determination related to preventive health care, (2) women’s knowledge of their bodies and cervical and breast cancer screening, (3) women’s anxiety related to preventive screenings, and (4) actual receipt of cervical and breast cancer screening. The mixed-methods study includes quantitative and qualitative components that complement each other to provide rich data. Quantitative methods consist of a longitudinal experimental design with multiple baseline measures; qualitative methods include focus groups. The experimental component uses a rigorous randomized control trial to obtain information about the efficacy and effectiveness of Women Be Healthy. Equally important, focus groups are conducted with women with intellectual disabilities who are enrolled in Women Be Healthy; the qualitative data obtained provides a better understanding of the viewpoints and experiences of these women regarding preventive health care.

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Project Number: H133G070214
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 07 $198,701; FY 08 $199,926; FY 09 $187,385; FY 10 $0 (No-cost extension through 09/30/2011)

Abstract: Rates of depression and suicide in women with physical disabilities (WPD) are up to five times higher than in the general population. Despite this disparity, few intervention studies that address the specific needs of this population are available. This project uses an existing cognitive behavioral therapy intervention that has demonstrated effectiveness in reducing depressive symptoms in women without disabilities as a starting point to co-create an intervention that addresses the specific needs of WPD. The co-creation process occurs in the context of a partnership between the investigators, WPD in the community, and community-based organizations including Oregon Centers for Independent Living (CILs). The specific aims of this project are to: (1) develop a cognitive behavioral group therapy intervention to address the specific needs of WPD who experience depressive symptoms; and (2) pilot-test the intervention to preliminarily evaluate its efficacy using a using a wait-list control design. Phase I of the project involves development of the curriculum based on the following information sources: four focus groups conducted with WPD, review of empiric sources, community meetings, and feedback from our community advisors and consultants. Phase II pilot-tests the intervention using both quantitative and qualitative methods to assess its efficacy. A long-term goal of the proposed project is to increase the capacity of CILs and other community-based organizations across the country to offer a relevant, effective, accessible, and affordable intervention to help WPD with depression overcome this debilitating secondary condition.
Field Initiated Projects (FIPs)
Pennsylvania

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; FY 08 $199,844; FY 09 $197,373; FY 10 $0 (No-cost extension through 09/30/2011)

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

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Project Number: H133G080066
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 08 $199,553; FY 09 $197,540; FY 10 $191,313

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

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: Phillip Beatty, PhD
NIDRR Funding: FY 05 $149,992; FY 06 $149,995; FY 07 $149,997; FY 08 $0 (No-cost extension through 11/30/2009); FY 09 $0 (No-cost extension through 11/30/2010)
Abstract: 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 1997-1998, researchers collected prospective data 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: biographical status, injury status, psychological status, environmental factors, and health behaviors. Several health outcomes measures were also used. During the follow-up, the current project administers multiple outcome measures, with a focus on adverse events — pressure ulcers, subsequent injuries, hospitalizations, and treatments. To date, this project has collected and entered data from 1,549 participants, 835 of whom participated in the original study and an additional 714 that were added in conjunction with funding from another agency (29 new responses are being processed). These measures focus on adverse health events including hospitalizations, onset of pressure ulcers, and subsequent injuries. Structural equation modeling is performed to develop risk models for each outcome. A consumer advisory committee has met to review instrumentation and continues to meet 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.
Field Initiated Projects (FIPs)  
South Carolina  


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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; FY 08 $149,946; FY 09 $0 (No-cost extension through 11/30/2010); FY 10 $0 (No-cost extension through 05/31/2011)  

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 six 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. The project is currently conducting the primary data collection, having previously completed finalization of instrumentation, based on consumer panel recommendations and pilot testing. After conclusion of the primary data collection, the project utilizes consumer input into the development of recommendations for healthy living with aging for consumers and policy recommendations for rehabilitation professions and legislators. The consumer panel meets throughout the study, making recommendations at each stage of activities. For the primary data collection, researchers are surveying the 1,568 respondents from the last follow-up using the Life Situation Questionnaire which has been used throughout the study and measures biographic and injury factors, activities of daily living, living circumstances, employment, participation, health, and subjective well-being (life satisfaction and self-reported problems). Additional instruments are being used to measure depressive symptoms, participation, health outcomes, environment, pain, and alcohol history. Additional measures of coping and social support are included in the current stage of data collection. These represent a combination of core measures dating back to the first time of measurement in 1973 and newer measures that have been added regularly since that time.
to address more diverse issues. Several sets of data analyses are conducted, including sequential designs that combine cross-sectional and longitudinal elements, as there are essentially several embedded longitudinal designs (i.e., 5, 10, 15, 20, 24, 35 years). The project identifies policy recommendations at the individual (recommended practices), rehabilitative (programmatic needs), and legislative-federal level (allocation of funds in areas that promote better outcomes). A consumer guide for healthy aging is developed and distributed through consumer recommended sources to insure the findings reach the consumer level.
Ambulation and Secondary Complications: Participants with Chronic Spinal Cord Injury.

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

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

Telephone and In-Person Cognitive Behavioral Therapy for Depression
After Traumatic Brain Injury

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Project Number: H133G070016
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 07 $199,873; FY 08 $199,981; FY 09 $199,915; FY 10 $0 (No-cost extension through 09/30/2011)

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

Natural History of Headache Following Mild Traumatic Brain Injury

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Project Number: H133G090022
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 09 $199,923; FY 10 $199,324; FY 11 $199,682

Abstract: This purpose of this project is to evaluate headache in those with mild traumatic brain injury (TBI) with the ultimate goal of developing a clinical trial to treat post-traumatic headache (PTH). Headache is a common diagnosis after TBI with an estimate of 30 to 90 percent of those with TBI developing migrainous or other type of headache, compared to the general population with 4 percent prevalence. Based on available literature and clinical observations, individuals with mild TBI are thought to suffer from headaches more frequently compared to those with more severe injuries. This study leverages existing resources by building upon a study being currently conducted through the TBI Model System at the University of Washington examining the natural history of headache in moderate to severe TBI and addresses the problem of headaches in the full spectrum of TBI severity. This project uses similar assessment tools as in the ongoing TBI Model System’s study to describe the characteristics of PTH using standardized headache measures and classifications. Additionally, it identifies predictors of headache and compares acute and chronic headache, as well as examines the impact of headache on return to work and other outcomes. Assessments occur at injury, and 3, 6 and 12 months after injury. This study, in conjunction with the current TBIMS study, provides a comprehensive description and natural history of PTH available at present.
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: Joyce Y. Caldwell
NIDRR Funding: FY 06 $149,129; FY 07 $149,772; FY 08 $149,888; FY 09 $0 No-cost extension through 10/31/2010

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. This project conducts descriptive analyses 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 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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Principal Investigator: Gerald F. Harris, PhD; Peter A. Smith, MD; 414/288-0698
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Project Number: H133G060252
Start Date: January 01, 2007
Length: 24 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 06 $150,000; FY 07 $150,000; FY 08 $150,000; FY 09 $0 (No-cost extension through 12/30/2010)

Abstract: This study compares the longer-term effects of two methods of clubfoot treatment: (1) the conservative Ponseti technique of manipulation and casting, and (2) progressive surgical release. 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. 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; however, little is known about the function of treated clubfeet.
Utility Arm – An Upper Limb Prosthesis

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Principal Investigator: Harold H. Sears, PhD
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Project Number: H133S090131
Start Date: October 01, 2009
Length: 24 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 09 $255,950; FY 10 $244,050

Abstract: This project continues to develop the innovative body-powered (BP) upper extremity (UE) prosthetic system, Utility Arm, which provides substantial improvements in functionality, comfort, and aesthetics for persons with UE deficiencies at all levels. The Utility Arm system increases independence and work capabilities for users of arm prostheses, with less complexity than a full myoelectric arm system, and at lower cost. Project goals include: (1) the design and fabrication of high-strength molded shells for the Utility Arm elbow, retaining the design features of the Utah Arm (enclosed forearm, forward hinge pin, exoskeletal structure, convenient battery compartment, etc.); (2) maintaining a body-powered elbow lock design of the Utility Arm which has the ability to function as a completely body-powered system; (3) developing the first plastic/composite adult BP terminal device (TD), the Gripper, featuring tough urethane surfaces for high friction, with no sacrifice in ruggedness, and at a competitive price; (4) developing a rugged Quick Disconnect that is integrated into electric as well as BP TDs, is highly water/dirt resistant, and allows adjustable friction; (5) developing a water-resistant battery pack which extends the environments in which a hybrid arm prosthesis may be used with an electric TD and lock; and (6) improving the electronic control which improves the wearer’s control of hand, wrist, and lock when using non-EMG alternative inputs.
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 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: Kenneth D. Wood, PhD
NIDRR Funding: FY 06 $950,000; FY 07 $950,000; FY 08 $950,000; FY 09 $950,000; FY 10 $950,000

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

Rehabilitation Engineering Research Center for Cognitive Rehabilitation

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

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

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

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

Rehabilitation Engineering Research Center for Wireless Technologies

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Project Number: H133E060061
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 06 $949,999; FY 07 $949,999; FY 08 $949,998; FY 09 $949,999; FY 10 $949,999

Abstract: The mission of this project is to promote equitable access to and use of wireless technologies by persons with disabilities, and 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; FY 08 $949,999; FY 09 $950,000; FY 10 $950,000; FY 11 $949,999

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

Rehabilitation Engineering Research Center for Wheeled Mobility in Everyday Life

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

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

Rehabilitation Engineering Research Center on Recreational Technologies and Exercise Physiology Benefiting Persons with Disabilities
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Project Number: H133E070029
Start Date: October 01, 2007
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 07 $950,000; FY 08 $950,000; FY 09 $950,000; FY 10 $950,000; FY 11 $950,000

Abstract: This center includes a coordinated set of research, development, capacity building, and dissemination projects focused on facilitating and promoting healthier, more active lifestyles for people with disabilities. The key target areas for the research and development projects are improving access to recreation and exercise venues and equipment, increasing opportunities for participation by people with disabilities in beneficial exercise, using technology to support greater adherence to regular exercise, and promoting better health and function for people with disabilities through active lifestyles. The research and development agenda of the 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 of a non-profit organization advocating for inclusive recreation and exercise opportunities for people with disabilities: The Inclusive Fitness Coalition (www.incfit.org) currently has 53 member organizations representing the recreation and fitness industry, fitness and exercise science professionals, researchers, disability organizations, professional organizations, rehabilitation centers, and others united by a common goal of furthering inclusive opportunities for people with disabilities to participate in recreation and exercise in their own communities.
Rehabilitation Robotics and Telemanipulation Machines Assisting Recovery from Stroke Rehabilitation Engineering Research Center (MARS-RERC)

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

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

Rehabilitation Engineering Research Center for Prosthetics and Orthotics

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

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

Rehabilitation Engineering Research Center on Wheelchair Transportation

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

NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 06 $899,753; FY 07 $899,708; FY 08 $899,749; FY 09 $899,751; FY 10 $899,728

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 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: Kenneth D. Wood, PhD
NIDRR Funding: FY 05 $949,996; FY 06 $949,994; FY 07 $949,999; FY 08 $949,997; FY 09 $949,993; FY 10 $0 (No-cost extension through 08/31/2011)

Abstract: The RERC on Universal Design and the Built Environment (RERC-UD) 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 include 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)
New York

RERC on Universal Design in the Built Environment

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

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

Rehabilitation Engineering Research Center for Communication Enhancement (AAC-RERC)

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

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

Rehabilitation Engineering Research Center on Spinal Cord Injury

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

Abstract: This center researches, develops, and evaluates innovative technologies and approaches that improve the treatment, rehabilitation, employment, and reintegration into society of persons with spinal cord injury (SCI). Research and development activities address tissue integrity management, upper extremity musculoskeletal injury prevention, and bladder function. Specific projects address: (1) the development of computational models of inflammation and healing for assessment of person-specific interventions and for general technology/intervention evaluations for pressure ulcer prevention and detection, (2) evaluation of the effects of support surface active cooling and low shear followed by development and evaluation of a novel seat cushion incorporating these features, (3) the development and evaluation of tools for manual wheelchair propulsion training, (4) the evaluation of novel manual wheelchair propulsion devices for preventing shoulder injury, (5) the evaluation of a weight shifting approach for preventing pressure ulcers, and (6) the development of preliminary computational models of inflammation and healing for evaluating bladder function and musculoskeletal injury status. The research team and collaborators include the Department of Rehabilitation Science and Technology, the Department of Physical Medicine and Rehabilitation, the McGowan Institute for Regenerative Medicine, 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)  
Pennsylvania

Rehabilitation Engineering Research Center on Accessible Public

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

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

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**Principal Investigator:** David M. Brienza, PhD; Michael McCue, PhD; 412/624-6383 (Brienza); 412/383-6589 (McCue)  
**Public Contact:** Debby Keelan 412/586-6905; Fax: 412/586-6910

**Project Number:** H133E090002  
**Start Date:** October 01, 2009  
**Length:** 60 months  
**NIDRR Officer:** Margaret Campbell, PhD  
**NIDRR Funding:** FY 09 $949,997; FY 10 $949,999; FY 11 $949,999; FY 12 $949,999; FY 13 $949,999

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

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Principal Investigator: Gregg C. Vanderheiden, PhD 608/263-5788
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Project Number: H133E080022
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 08 $950,000; FY 09 $950,000; FY 10 $950,000; FY 11 $950,000; FY 12 $950,000

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

Rehabilitation Engineering Research Center on Telecommunications Access

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Principal Investigator: Judy Harkins, PhD (Gallaudet University); Gregg C. Vanderheiden, PhD (Trace); 202/561-5257 (Gallaudet); 608/263-5788 (Trace)
Public Contact: Kate Vanderheiden 608/265-4621 (V); 608/263-5408 (TTY); Fax: 608/262-8848

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

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

Rehabilitation Engineering Research Center on Technologies for Children with Orthopedic Disabilities

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

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

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Project Number: H133A090020
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 09 $950,000; FY 10 $950,000; FY 11 $950,000; FY 12 $950,000; FY 13 $950,000

Abstract: This project explores the factors affecting awareness of, access to, and acquisition of high-quality, low-cost assistive technology (AT) in resource-limited environments (RLEs) within developing countries and US Tribal Lands. A systematic approach is taken to investigate the following three questions: (1) what factors influence AT provision; (2) why some models of AT provision are successful and under what conditions, as collectively perceived by manufacturers, distributors, service providers, and AT users and their families or caregivers; and (3) how stakeholders can create successful AT provision programs. The project uses a comprehensive review of the current methods of AT provision in literature, focus groups, and semi-structured interviews to develop surveys which are then administered to AT manufacturers/distributors, service providers, and individuals with disabilities (IWD) in five developing countries and US Tribal Lands. The survey data identify the influential factors in successful AT provision programs and effective communication methods to reach IWD in RLEs. The Assistive Technology Access System Development Guide, an evidence-based tool, is developed and used to improve existing AT provisions or provide solutions for new programs for three contextually different RLEs case studies. Project research provides the field of AT provision in developing countries and US Tribal Lands with the quantitative research and tools to steer future action; and the evaluation mechanisms to drive change on every level from the individual up to global policy makers.
Consortium for Assistive Technology Outcomes Research (CATOR) II

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Principal Investigator: Frank DeRuyter, PhD
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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; FY 08 $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 assistive technology (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. 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.
Global Access Information Navigator

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

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

Modular Orthoses Prescription System (MOPS)

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

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

A Robotic Powered Wheelchair Trainer with Haptic Guidance as Needed

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Project Number: H133G090111
Start Date: October 01, 2009
Length: 24 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 09 $100,598; FY 10 $99,402

Abstract: This project develops a robotic powered wheelchair (WC) system on which individuals with severe disabilities can safely learn and develop driving skills at their own pace with minimum assistance from a therapist. A powered WC is equipped with a webcam (simple video camera) to achieve a self-steering function along a training course, and a force-feedback joystick to implement an algorithm that can demonstrate (through intuitive movement and force of the joystick itself) exemplary control to follow the course, while systematically modulating the strength and sensitivity of such haptic demonstration. This method gradually exposes the individual to the dynamics of a normal powered WC, in an analogous fashion to bicycle training wheels. The idea is to let the individual learn from the experience of making errors repeatedly and safely in a structured environment, while reducing demands on the supervising therapist.
**Electronic Tactile Displays for Braille Text and Graphics**

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

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

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Project Number: H133G080047
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Joseph A. DePhillips
NIDRR Funding: FY 08 $199,975; FY 09 $199,796; FY 10 $199,898

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

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; FY 08 $149,895; FY 09 $0 (No-cost extension through 09/30/2010); FY 10 $0 (No-cost extension through 09/30/2011)

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. The first experiment 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. Experiments two and three 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 and a questionnaire similar to the Abbreviated Profile of Hearing Aid Benefit. 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.
Personal Audio Information Service

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Project Number: H133G070093
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Joseph A. DePhillips
NIDRR Funding: FY 07 $200,000; FY 08 $200,000; FY 09 $200,000; FY 10 $0 (No-cost extension through 01/31/2011)

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.
Field Initiated Projects (FIPs)
District of Columbia

The Captioned Braille Radio Initiative: Providing Emergency Information for Individuals who are Deaf-Blind

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Principal Investigator: Mike Starling
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Project Number: H133G090139
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Joseph A. DePhillips
NIDRR Funding: FY 09 $200,000; FY 10 $200,000; FY 11 $200,000

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

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

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

3-32 NIDRR Program Directory FY 2010 - Technology for Access & Function
Field Initiated Projects (FIPs)
Georgia

Workplace Accommodation Wizard: An Assessment and Accommodation Tool for Employers

Georgia Institute of Technology
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Project Number: H133G070063
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 07 $196,460; FY 08 $199,801; FY 09 $195,616; FY 10 $0 (No-cost extension through 09/30/2011)

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

Web-Based Treatment for Aphasia

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Project Number: H133G060055
Start Date: December 01, 2006
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 06 $146,316; FY 07 $145,529; FY 08 $149,932; FY 09 $0 (No-cost extension through 10/31/2010)

Abstract: This project conducts a randomized clinical trial to develop and implement an innovative, broad-band, 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 ICF categories of body structure/function, activity, and participation, and include a variety of standard aphasia tests as well as quality of life indices.
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; FY 08 $194,252; FY 09 $196,457; FY 10 $0 (No-cost extension through 09/30/2011)

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

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Project Number: H133G080120
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 08 $183,463; FY 09 $168,672; FY 10 $185,853

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

Development of an Advanced Prosthetic Microcontroller System

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

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

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

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

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

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Project Number: H133G090136
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Doris Werwie, PhD
NIDRR Funding: FY 09 $199,910; FY 10 $199,346; FY 11 $199,979
Abstract: This project evaluates the Online and Applied System for Intervention Skills (OASIS) Training Program, a program that uses a Research-to-Practice Outreach Training model to teach parents of children with an autism spectrum disorder (ASD) how to implement empirically-based interventions with their children. The evaluation of the OASIS program includes two studies. The purpose of Study 1 is to: (1) conduct a between-group experimental analysis of the effectiveness of the final iteration of the OASIS training program developed during a previously funded development project, and (2) conduct a within-subject analysis of the effects of OASIS on parent knowledge and skill fluency with implementation of behavioral techniques with their child, family quality of life, and child language and social engagement post treatment and during follow-up measures. The purpose of Study 2 is to assess the long-term impact of the OASIS program on parents and children who previously completed training. Study 2 continues collection of family outcome, intervention-specific, and child outcome data on families who have experienced the OASIS intervention as a part of the intervention development phase in order to obtain preliminary information about long term effects.
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; FY 08 $200,000; FY 09 $200,000; FY 10 $0 (No-cost extension through 09/30/2011)

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.
Caption Accuracy Metrics Development Project

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Project Number: H133G080093
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 08 $200,000; FY 09 $200,000; FY 10 $200,000

Abstract: This project utilizes language-processing tools to develop an automated caption accuracy assessment system for real-time captions for live news programming as well as classroom-based communication access real-time translation (CART) captioning. Additionally, this project researches whether text-based data mining and automatic speech recognition technologies can produce meaningful data about stenocaption accuracy that meets the need for caption performance metrics. Advisors include the National Institute of Standards and Technology, IBM, Nuance, the Massachusetts Institute of Technology, Gallaudet University, and the National Technical Institute for the Deaf. Prototypes are reviewed by major stakeholders at Technical Review Meetings. Iterative tests and modifications within major stenocaption and broadcast operations facilities provide real-world assessments of the system’s ability to produce meaningful caption accuracy metrics. A reliable performance measurement tool that can analyze the quality of real-time captioning, developed with input from industry leaders, deaf education experts, and the Federal National Institute of Standards and Technology, provides Congress and the Federal Communications Commission with much-needed, independently verified data to establish caption accuracy requirements, and greatly improves the ability of the television community to monitor and maintain the quality of live captioning they offer to viewers who are deaf or hard of hearing.
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; FY 08 $56,282; FY 09 $0 (No-cost extension through 11/30/2010)

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 and reverberation on sentence-level speech perception are measured as functions of age (5 to 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?
Preparations for In-Home Testing of Brain-Computer Interfaces
Operating Assistive Technology

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Project Number: H133G090005
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 09 $199,999; FY 10 $199,997; FY 11 $199,996

Abstract: This project prepares for in-home testing of brain-computer interfaces (BCIs) among target user populations across the lifespan, including people with amyotrophic lateral sclerosis, muscular dystrophy, spinal cord injury, and cerebral palsy. BCIs have long been used in the laboratory; although their capabilities have for several years seemed sufficient to be of benefit to people with the most severe physical impairments, they have not been available for purchase or in-home use. While the BCI field has been rapidly expanding in numbers of related publications, research has largely focused on signal processing advances, not on practical hurdles to home use of BCIs. Only in the last few years have BCIs been taken out of the laboratory for testing in home environments where they can have a real impact on independence and employment. However, the input of people with physical impairments has not been pursued in an organized fashion by BCI researchers. The specific aims of the project are: (1) develop improved BCI cursor movement capabilities for integration with computer-based assistive technologies; (2) demonstrate and quantify the ability of subjects from potential target user populations to functionally use BCIs; and (3) identify and quantify the design considerations that are of the highest priority to people with specific impairments.
Addressing Self-Management Skills through Electronic Gaming: Meeting the Needs of Underserved Individuals with SCI

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Project Number: H133G100118
Start Date: October 01, 2010
Length: 36 months

NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 10 $199,993; FY 11 $199,997; FY 12 $199,972

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

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Project Number: H133G080136
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 08 $199,964; FY 09 $199,480; FY 10 $198,953

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

Researching Accessibility Gaps in Transit Hub Communication Systems and Standards

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

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

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Project Number: H133G090227
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 09 $200,000; FY 10 $199,992; FY 11 $200,000

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

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Project Number: H133G100153
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 10 $200,000; FY 11 $200,000; FY 12 $200,000

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

A Means of Expression: 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; FY 08 $200,000; FY 09 $200,000; FY 10 $0 (No-cost extension through 03/31/2011)

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.
Systematic Study of the Effectiveness of AAC Intervention to Improve Conversation in Individuals with Degenerative Language Disorders

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Project Number: H133G080162
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 08 $200,000; FY 09 $200,000; FY 10 $200,000

Abstract: This project continues previous research in alternative and augmentative communication (AAC) tool use for adults with primary progressive aphasia (PPA) resulting from frontotemporal lobar dementia. Project objectives include: (1) to test the extent to which AAC intervention is associated with changes in conversation for persons with moderate Alzheimer’s disease and persons with primary progressive aphasia under controlled conditions; (2) to test the extent to which AAC use is associated with daily functional changes in conversation for the two participant groups under natural conditions; and (3) to describe the behavioral and socio-relational characteristics of caregiver/partners and participants who display improved conversational skills with AAC treatment. Research is conducted with 100 adults from the Alzheimer’s Disease Research Centers in Portland, OR and San Francisco, CA. AAC devices are customized for each participant with specific vocabulary depicting autobiographical memories and functional activities. Each participant engages in a spaced retrieval priming task followed by videotaped conversations with and without the AAC device in six controlled conversations with a research assistant (Study 1), and six practical context conversations with a caregiver (Study 2). Spontaneous AAC device use in the home is tracked for six months following Study 2 conversations. This project provides scientific data that influences management guidelines to improve daily conversational functioning of persons with degenerative language loss secondary to moderate Alzheimer’s disease and PPA so that they may: (1) express their own needs and desires; (2) reduce care giving costs by facilitating communication between caregivers and their charges; and (3) increase quality of life for both caregivers and their charges with dementia.
**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:** David W. Keer  
**NIDRR Funding:** FY 06 $150,000; FY 07 $150,000; FY 08 $147,564; FY 09 $0 (No-cost extension through 10/31/2010); FY 10 $0 (No-cost extension through 04/30/2011)

**Abstract:** This project defines and demonstrates a Personal Audio Information Service (PAIS); a new mainstream system that expands the lifeline services currently offered to the visually impaired 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 high-definition radio (the new FCC-sanctioned standard for digital radio broadcasting), creating a powerful on-demand media tool that substantially improves media access for millions of print-impaired American consumers. Consumer-selected media may include local digital radio, live-read newspaper feeds, books on demand, and targeted newsfeeds. These may be organized and navigated using topic lists and other user-defined organization schemes. 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. A new component of work undertaken by NPR in this project (with International Association of Audio Information Services agreement) is to design the PAIS system to maximize interoperability with potential podcast and other IP-enabled delivery methods.
Field Initiated Projects (FIPs)
West Virginia

Making Small Visual Displays Accessible to People with Vision Loss

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Project Number: H133G090026
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 09 $199,687; FY 10 $199,888; FY 11 $199,516

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

**Agricultural Assistive Technology Training**

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**Principal Investigator:** Paul Leverenz

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**Project Number:** H133G100195

**Start Date:** October 01, 2010

**Length:** 36 months

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

**NIDRR Funding:** FY 10 $187,152; FY 11 $194,728; FY 12 $200,000

**Abstract:** Agricultural workers with disabilities across the nation struggle to continue farming despite their disability. This collaborative partnership creates a cost effective, on-line distance learning course designed for vocational rehabilitation (VR) professionals in five states, developing training opportunities and materials to assist VR staff nationwide to see agriculture as a successful vocational rehabilitation outcome and to be better prepared to assist farmers with disabilities achieve such successful outcomes. This project creates the first national training program designed to strengthen the professional competencies of VR counselors in their work with a highly underserved agricultural population. The training increases the capacity of VR counselors to provide knowledgeable and comprehensive rehabilitation and assistive technology services in achieving successful employment outcomes for rural and largely self-employed farmers and farm workers with disabilities. An Advisory Council representing Council of State Administrators of Vocational Rehabilitation, VR administrators, field counselors, Technical Assistance and Continuing Education, farmers with a disability, Easter Seals Wisconsin, AgrAbility of Wisconsin, the Wisconsin Department of Vocational Rehabilitation, and the University of Wisconsin-Extension assists in designing, reviewing, and refining the training materials developed by this project. Project results are reviewed and evaluated using surveys following the training.
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; FY 08 $150,000; FY 09 $0 (No-cost extension through 12/31/2010)

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 magnetic resonance imaging 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.
Access Mainstreet: Universal Design Information Tool (UD-IT)

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

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

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Project Number: H133S100076
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 11 $75,000

Abstract: This project develops a system to provide augmentative sensory feedback in the lower limbs of amputees and diabetic/vascular patients by enhancing sensory function resulting in improved mobility and improved quality of life. The sensory feedback system detects force loads at the base of the foot or prosthesis and translates this force, via pneumatic control system, to pressure points on the upper thigh using tactile balloon actuators. By providing tactile stimuli on the skin of the upper leg, the system uses an information feedback pathway that was previously unused. Phase I builds upon the foundation of the prior research efforts to design a sensory feedback system that is practical for activities of daily living and expanded clinical testing.
Using Speech Therapy Telepractice to Improve Treatment of Students with Communication Disorders

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Principal Investigator: Jack Lynch
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Project Number: H133S100048
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 10 $75,000

Abstract: This project creates a service allowing speech-language pathologists (SLPs) to provide effective therapy services remotely via “telepractice,” using a web platform combining video conferencing technology with integrated therapy curriculum and practice management tools. Phase 1 evaluates whether schools may be able to improve their SLP services with telepractice by increasing therapy intensity, that is, concentration and amount of treatment. Researchers have suggested that language intervention in school SLP programs should be more intensive. However, increased intensity is challenging to implement in a traditional in-person therapy model. Telepractice removes many of the practical obstacles to implementation. This study compares progress between students who receive a 5-week concentrated schedule of treatment via telepractice to students who receive a 12-week schedule of in-person therapy.
Accessible Web-Based I Can Work Application that will Enhance Community Participation and Living for Individuals with Disabilities

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Project Number: H133S100017
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 10 $74,510

Abstract: This project produces a new, accessible, web-based I Can Work application that enhances community participation and independent living for individuals with disabilities. Individuals with disabilities who are receiving Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) often need to work to supplement their disability benefits. Increases in earned income have an impact on both SSDI and SSI cash and healthcare benefits, and once an individual starts working, benefit overpayments are common. The I Can Work application, as a web-based application, offers beneficiaries the opportunity to better manage their wage reporting through a technology intuitive to meeting the needs of the population. The development and design of this accessible information technology provides beneficiaries, their families, and supports the ability to monitor their work effort and its impact on their Social Security cash and health benefits. Additionally, I Can Work serves as an incentive to beneficiaries who want to return to work but have not done so because of the fear of loss of cash and health benefits. The application assists in Social Security Administration efforts to reduce overpayments and provides incentives to work. Accurate, timely reporting saves taxpayers money in overpayments. A beneficiary’s ability to have a reliable reporting mechanism and an alert that they are being overpaid empowers the individual to work; to set aside funds that they are not entitled to; and to recognize that they are receiving a short-term, no-interest loan from SSA. Moreover, the application’s tracking capabilities provide proof of having reported to SSA; a critical component when requesting reconsideration of an overpayment.
Mobile Signing Earth Sciences Dictionary for Grades 9-12

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Principal Investigator: Jason C. Hurdich
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Project Number: H133S100037
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 10 $74,978

Abstract: This project develops and evaluates a Mobile Signing Earth Science Dictionary that provides animated American Sign Language and Signed English definitions for Apple’s newest touch tablet, iPad, and the existing and known technology of the iPod Touch. Using the mobile dictionary, Deaf and hard-of-hearing users are able to study a full range of curriculum-based Earth Science subjects in their native language. The mobile dictionary provides mobility and independence that leads to opportunity-based learning in classrooms, on field trips, or while studying.
Small Business Innovation Research (SBIR), Phase I
Indiana

Assembly Advisor – An Integrated Prompting and Verification System that Increases Job Opportunities for People with Intellectual Disabilities

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Principal Investigator: Stephen M. Sutter
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Project Number: H133S100031
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 10 $75,000

Abstract: This project researches and develops natural support mechanisms for people with intellectual disabilities that facilitate greater opportunities and independence in employment settings. This project demonstrates the technical merit, feasibility, and cost effectiveness of combining state-of-the-art portable wireless technology and sensor technology with an innovative approach to develop the first semi-automated supervisory system designed to guide the consumer through the assembly process and verify the quality of the consumer’s work. This allows the Assembly Advisor the ability to detect the status of specific factors related to the job task, and then dynamically adjust the delivery of task prompts to properly coach the individual with an intellectual disability based on these factors; thus, increasing the jobs available to them and facilitating independence while maintaining quality. Specific objectives for Phase I include: (1) determining end user requirements, (2) developing a proof-of-concept prototype of the Assembly Advisor system, and (3) performing a usability analysis with actual users. A comparison of the user’s sense of independence is performed between Assembly Advisor and the traditional approach of human supervision.
myPad – A Portable Universal Console to Enable Older Adults to Safely Accomplish Instrumental Activities of Daily Living

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Project Number: H133S100033
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 10 $75,000

Abstract: This project demonstrates the technical merit, feasibility, and cost effectiveness of combining portable console technology with an innovative approach and state-of-the-art software to deliver a universal console system capable of removing barriers in independent living settings. Phase I specifically focuses on helping aging adults safely and independently accomplish typical instrumental activities of daily living by eliminating unnecessary trips, and reducing the physical effort and complexity in laundry tasks. Specific Phase I objectives include: (1) determining end user requirements, (2) developing a proof-of-concept prototype of the system, and (3) evaluation of the utility of the prototype with actual elderly individuals who represent a cross-section of functional limitations.
Using Robotics to Promote Social Cognitive Skills in the Inclusive Classroom

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Project Number: H133S100077
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 10 $74,908

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

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Project Number: H133S100026
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 10 $74,957

Abstract: This project develops an electronic mobility aid for individuals with low vision or blindness to prevent collision with overhanging obstacles not detected by standard methods such as the cane. This electronic mobility aid fulfills the criteria of (1) small size, (2) low cost, (3) low cognitive demands, and (4) hands-free operation. Phase I of the project focuses on novel algorithms to minimize cognitive demands on the user, development of custom circuitry for interfacing with an ultrasound emitter and receiver, design of the circuit board and housing, firmware for the embedded controller, and low-power considerations for extended battery life. Laboratory tests evaluate the prototype’s specifications for obstacle identification, rejection of obstacles not posing an immediate threat, battery life, and beam width. The device is also tested in an outdoor urban setting. In addition, an expert consultant guides development and evaluates the device’s suitability for individuals with visual impairments.
Virtual Environment for Social Information Processing (VESIP)

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Project Number: H133S100019
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 10 $74,964

Abstract: This project creates an immersive, theory-based tool that can assess and eventually train, social information processing (SIP) skills in children with autism spectrum disorders (ASD). This tool leverages existing technology to rapidly create a virtual environment where children with ASD can participate in simulated social interactions. The virtual environment for social information processing (VESIP) system provides an environmental guide for children with ASD through social problem-solving situations based on the seminal Crick and Dodge SIP model. The VESIP system provides a significant improvement over existing measures of social skills in the following ways: (1) providing a standardized, computer-delivered form that reduces training requirements and scoring time, and increases comparability across populations; (2) theory-based assessments designed to pinpoint specific deficits in the SIP process for later individualized intervention; and (3) building an immersive, easily-customizable, game-like interface that is more engaging leading to greater ecological validity and a more accurate assessment of real-world skills. The VESIP for children with ASD provides significant social benefits by improving children’s social competency and independence in educational, recreational, and employment settings and improving long-term social functioning.
Improved Hearing Aid Connection to Public Induction Loops

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Project Number: H133S100042
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 10 $75,000

Abstract: This project seeks to improve on the old hearing aid telecoil technology by replacing wire-wound receiver coils (telecoils) within the hearing aid with new solid state sensors. Improvements in size, orientation, sensitivity, and noise rejection are possible by replacing these existing telecoils with new three axis thin film Giant Magnetoresistive (GMR) sensors. Telecoils in hearing aids have served a dual purpose: to enhance telephone conversation and enable hearing aids to serve as a wireless interface for public audio broadcasts. When broadcasting audio signals, the signal is transmitted to the telecoil sensor (a magnetic field sensor located in the hearing aid) via magnetic energy from an induction wire loop located near the listener. This induction loop can be a small assembly located in the handset of the telephone or a large wire loop within a public venue like a theatre.
Indoor Route Following Tool for the Blind

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Project Number: H133S100049
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 10 $75,000

Abstract: This project develops an effective, indoor low-vision navigation aid, the KBT Indoor Route Following Tool, for individuals with low vision and age-related visual disorders. Individuals who are blind or have low vision can navigate outdoors using a cane, guide dog, or their own low vision as an aid; however, indoor navigation in large or unfamiliar buildings can be very challenging. The use of a GPS-based navigation device is effective outdoors but ineffective in large office buildings where the GPS receiver cannot receive the signal and there are no geographical databases devoted to the landscape of an office building. The KBT Indoor Route Following Tool addresses the problem of wayfinding in a building for...
An Enhanced Performance Training and Support System for Individuals with Autism Spectrum Disorders

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Project Number: H133S100071
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 10 $75,000

Abstract: This project develops and evaluates the Enhanced Performance Training and Support System (EPTSS) to train and support individuals with autism spectrum disorder (ASD) in: behavioral training, modeling, self-management, and visual cues using available technology such as the iPod Touch/iPad. Phase I assesses the feasibility of an enhanced job performance system utilized in multiple work environments and provides training and technical support necessary for individuals with ASD to successfully perform job tasks.
Improved Spectral Control in Rule-Based Hybrid Text-To-Speech Synthesis for the Production of Natural-Sounding and Mimetic Voices

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Project Number: H133S100018
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 10 $75,000

Abstract: This project demonstrates the feasibility of a novel text-to-speech synthesis system that provides individuals with speech impairments with a selection of more natural-sounding and individualized voices. Through a spectral envelope (SE)-based synthesis technique to be integrated with NovaSpeech’s hybrid synthesis system the project provides improved control over the spectral cues to voice quality. The representation of syllable nuclei in terms of spectral envelopes rather than the waveforms currently used in the hybrid system provides for greater adaptability to different linguistic contexts and speaking styles. The SE-based representation promises improved naturalness and mimesis while maintaining all other benefits of the hybrid system, including rapid and low-cost voice development, consistent quality from utterance to utterance, and small memory requirements. Since the system does not trade off natural-sounding speech for low memory requirements, as current systems do, it is able to meet the demands of virtually any text-to-speech application, such as a talking cell phone or e-reader, a screen reader for individuals with visual impairments, or a larger server-based system providing information over the phone. The ease with which natural-sounding and individualized voices can be added with a combined spectral envelope and hybrid approach is of special benefit to individuals with speech impairments. The project also has the advantage of increasing understanding of speech perception, speech patterns, and speaker identification.
An Interactive Social Tutoring System to Improve and Measure Social Goals for Students with High Functioning Autism Spectrum Disorders

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Project Number: H133S100053
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 10 $74,995

Abstract: This project develops and evaluates a software program using innovative interactive technology specifically designed to provide social skills training to kindergarten through 2nd grade students with high functioning autism spectrum disorders (ASDs). The program provides teachers with a means to track and document students’ progress towards social goals and is accompanied by professional development tools for teachers. The Interactive Social Tutoring System: (1) targets social skills that are particularly affected in students with ASD, (2) may be applied at the individual student level, (3) provides self-paced learning with individualized adaptation and progression, (4) utilizes instructional software for interactive social tutoring, (5) provides performance tracking and student progress reporting, (6) provides teachers with on-going access to professional development and implementation support tools, and (7) is based on rigorous, experimental research establishing its benefits.
Small Business Innovation Research (SBIR), Phase II
Florida

Signing Science Pictionary for Young Learners Who are Deaf or Hard of Hearing

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Project Number: H133S090134
Start Date: October 01, 2009
Length: 24 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 09 $248,862; FY 10 $249,558
Abstract: In Phase II, this project continues to develop and evaluate the Signed English Signing Science Pictionary (SSP) software. SSP has at least 700 terms for handheld devices for use in grades K-3 and is used to promote team building and communication of scientific ideas for children with hearing disabilities. SSP versions are created for handheld media players, such as the Apple iPod Touch, as well as for selected emerging multifunction devices, such as iPhone, Blackberry, and Sidekick. This project also develops new signing characters, including animal and fantasy characters that are more appropriate to a younger age group than the SSP targets. The SSP may be made available for the Apple iPod Touch and for at least one additional mobile device, and sold through popular application channels such as Apple’s iTunes store.
Hearing Companion: Handheld Portable Sound Identification and Critical Alerting Functionality for People Who Are Deaf or Have Hearing Loss

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Project Number: H133S080075
Start Date: October 01, 2008
Length: 24 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 08 $250,000; FY 09 $250,000; FY 10 $0 (No-cost extension through 01/30/2011)

Abstract: Based on previous research, this project develops and demonstrates the Hearing Companion which: (1) automatically recognizes specific sounds in the environment on a pocket-sized device; and (2) alerts the user on their mobile device via vibration, images, and captions that identify these recognized sounds. This efficient, wearable system utilizes existing and developing technology, improving the ability of a person who is deaf to function more naturally in a work or school environment. Phase II project goals include: (1) enhance the Hearing Companion device and application; (2) expand the number of mobile communication devices supported; (3) perform an extended usability evaluation of the device in a range of activities in vocational, public, and daily living scenarios; and (4) prepare for transition into commercialization. The portable handheld system significantly enhances the user’s sense of safety, security, and independence by providing a means of sound recognition heretofore unavailable to these individuals. Moreover, the personal devices provide a convenient and powerful tool for mobile information and communication.
A Navigation and Object-Location System to Assist Blind and Low-Vision Individuals in Indoor Environments

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Project Number: H133S100084
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Joseph A. DePhillips
NIDRR Funding: FY 10 $249,998; FY 11 $249,998

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

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

Abstract: This project designs, constructs, and evaluates a concept model based on current mid wheel designs. The concept model uses a variable position drive wheel system that can move forward or backward from the mid-wheel position using a simple mechanical system to change the position of the drive wheels. A series of five structured tests for maneuverability and/or stability are used to compare performance as a function of placement of the drive wheels. The feasibility of this concept model is based on demonstrating that a variable position drive wheel system optimizes performance under a greater variety of terrain and environmental conditions compared to a single position drive wheel system.
Small Business Innovation Research (SBIR), Phase II
Massachusetts

Cooling System for Multiple Sclerosis Patients

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Project Number: H133S100088
Start Date: October 01, 2010
Length: 24 months
NIDRR Officer: Delores Watkins
NIDRR Funding: FY 10 $254,680; FY 11 $254,680

Abstract: This project develops a small mobile personal cooling system that can be worn conveniently by individuals with heat-related disabilities. The successful development of this mobile technology: (1) supports access, promotes integration, and facilitates the independence of individuals with disabilities in the workplace and educational settings, and during recreational activities; (2) provides increased freedom and independence not only to individuals with multiple sclerosis but also to other disability populations; and (3) has further applicability for workers wearing protective equipment and/or in warm work environments, including workers in commercial and industrial settings, first respondent mission arenas, law enforcement, and the military.
Wireless Wrist Device to Alert the Deaf of Sounds and Events in Their Environment

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Project Number: H133S080068
Start Date: October 01, 2008
Length: 24 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 08 $250,000; FY 09 $250,000; FY 10 $0 (No-cost extension through 09/30/2011)

Abstract: This project develops a wireless system to alert individuals who are deaf to critical sounds and events in their environment. This efficient, wearable system utilizes existing and developing technology, improving the ability of a person who is deaf to function more naturally in a work or school environment. The system uses a consumer product called a Bluetooth wristwatch, which is essentially a wireless, wrist-worn computer interface and display. The Bluetooth watch serves as a hands-free universal interface to a network of sensors providing data about the surrounding environment and as a convenient interface for text messaging. The text messaging feature is significant since text messaging is common among individuals who are deaf and has also increased communication between individuals who are deaf and individuals who are hearing.
Connectivity to Modern Electronics for the Hearing Disabled

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Project Number: H133S090130
Start Date: October 01, 2009
Length: 24 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 09 $223,247; FY 10 $276,753

Abstract: During Phase II, this project continues to develop and test a wireless module system for interconnecting hearing aids with consumer electronic devices. The project uses the micro-behind-the-ear hearing aid module as a development platform. The goal is to provide a consumer electronics add-on module (audio digitizer and transmitter module) compatible with nearly all future wireless hearing aids. This new module allows hearing-aid users to directly receive high-quality sound data from cell phones, televisions, computers, MP3 players, classroom PA systems, and so forth.
Audio-Tactile Interactive Computing with the Livescribe Pulse Pen

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sl@touchgraphics.com

**Principal Investigator:** Steven Landau
**Public Contact:** 212/375-6341; Fax: 646/452-4211

**Project Number:** H133S090137
**Start Date:** October 01, 2009
**Length:** 24 months
**NIDRR Officer:** Bonnie Gracer
**NIDRR Funding:** FY 09 $249,945; FY 10 $249,795

**Abstract:** This Phase II project develops a system for delivering audio-tactile computer applications that are accessible to high school and college students who have print disabilities. The applications include: a scientific calculator, a periodic table of elements, subway maps, and a game. In each application, the user touches the tip of the Livescribe Pulse Pen to raised-line and textured (tactile) images printed on plastic film. As the user does this, the audio system for the pen plays spoken descriptions of features he/she touches. Tests are conducted with human subjects at two sites and expose students with visual impairments to each application to study their performance and actions while using the system. The vibrations and other haptic sensations delivered into the user’s hand as the pen’s tip is guided through a variety of grooves, channels, dimples, and punched holes bring an interactive richness and control without adding to tactile graphical clutter. By overlaying tactile images with additional information that is relatively transparent to fingertip touching, this displays more information without increasing cognitive load, thereby improving comprehension of potentially complex figures.
Small Business Innovation Research (SBIR), Phase II
Oklahoma

Haptic Feedback Improvements for Prostheses

OrthoCare Innovations, LLC
800 Research Parkway, Suite 310
Oklahoma City, OK 73104

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

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

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

**New Electro-Hydraulic Foot Prosthesis**

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**Project Number:** H133S100080
**Start Date:** October 01, 2010
**Length:** 24 months
**NIDRR Officer:** Delores Watkins
**NIDRR Funding:** FY 10 $238,712; FY 11 $238,712

**Abstract:** This project develops an electronic-controlled version of the advanced hydraulic foot/ankle (MCI Foot) demonstrating the feasibility of the automatic adjustment of resistance throughout the range of motion. The advanced MCI Foot, especially the automatic-controlled version, contributes to the function of the prosthesis wearer, resulting in advanced and more natural walking benefits. The project objectives include: (1) Implementation of electric servo-valves into the existing foot-ankle design. Manual valves have been developed at present, and in preliminary testing, shown to be successful at setting the foot wearer’s preference for dorsi-flexion and plantar flexion; (2) Development of sensor for ankle position, inclination, temperature, and load for integration into the ankle electronic Controller. The sensors utilize a rugged design, for long-term reliable usage in the foot, and small size to fit within the anatomical shape of the foot; (3) Implementation of an algorithm for ankle control by microprocessor. The automatic control of ankle resistance depends upon the variable of position, inclination, and load, indicating the point in the gait cycle in which the walker’s step is taken. The temperature is automatically compensated for as the hydraulic fluid warms and changes viscosity. Success in the function of the auto-controller is evaluated in-house, in the Foot Testing Center.
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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Personal Assistance Services (PAS) in the 21st Century

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Project Number: H133B080002
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 08 $850,000; FY 09 $850,000; FY 10 $850,000; FY 11 $850,000; FY 12 $850,000; FY 13 $850,000

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

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

Abstract: This project provides a beneficial impact on the health and function of adults with intellectual and developmental disabilities (I/DD) and their families over their lifespan through a coordinated set of research, training, technical assistance, and dissemination activities. Project goals include: (1) improving health and function of adults with I/DD; (2) enhancing consumer-directed home and community-based long-term care; (3) reducing environmental barriers to health and community participation; and (4) developing an improved instrument to measure health and function in persons with I/DD to facilitate assessment of outcomes in health promotion interventions. Projects relating to the promotion of health and function include: (1) examination of risk factors and age-related changes in health status for adults with varying neuro-developmental conditions; (2) cohort study of health behaviors on health and function, and interventions to improve balance and prevent falls for people with I/DD; and (3) innovative approaches to community-based health promotion for people with I/DD. This RRTC enhances caregiving supports and consumer direction through research on hiring practices in consumer direction, interventions to improve consumer directed services, and family support interventions to improve the health of minority families. Additionally, this project develops and tests tools used in measuring the effectiveness and efficiency of home-based supports and in measuring the cognitive, social, and physical accessibility of environments for people with I/DD.
Rehabilitation Research and Training Centers (RRTCs)
Kansas

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

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Project Number: H133B060018
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 06 $649,839; FY 07 $649,908; FY 08 $649,686; FY 09 $649,909; FY 10 $649,636

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

Opening Doors for Children with Disabilities and Special Health Care Needs

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Project Number: H133B060012
Start Date: March 01, 2006
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 06 $800,000; FY 07 $800,000; FY 08 $800,000; FY 09 $800,000; FY 10 $800,000

Abstract: This rehabilitation research and training center on children and youth with disabilities who have special health care needs (CYDS) tests the effectiveness of two intensive interventions, integrates 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.
ENhancing ACTivity and Participation for Persons with Arthritis (ENACT)

Trustees of Boston University
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Project Number: H133B100003
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Theresa San Agustin, MD
NIDRR Funding: FY 10 $799,983; FY 11 $799,968; FY 12 $799,992; FY 13 $799,988; FY 14 $799,992

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

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

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

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Project Number: H133B090019
Start Date: October 01, 2009
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 09 $800,400; FY 10 $800,400; FY 11 $800,400; FY 12 $800,400; FY 13 $800,400

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

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

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Project Number: H133B080029
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 08 $850,000; FY 09 $850,000; FY 10 $850,000; FY 11 $850,000; FY 12 $850,000

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

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

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

National Center for Parents with Disabilities and Their Families

Through the Looking Glass
2198 Sixth Street, Suite 100
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Project Number: H133A080034
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 08 $500,000; FY 09 $500,000; FY 10 $500,000

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

University of Massachusetts Boston
The Institute on Community Inclusion
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Principal Investigator: Meg Grigal, PhD; Debra Hart, PhD; 617/590-8082
Public Contact: Debra Hart, PhD 617/590-8082

Project Number: H133A080042
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 08 $500,000; FY 09 $500,000; FY 10 $500,000
Abstract: This center conducts research and disseminates information on promising practices that support individuals with intellectual disabilities (ID) to access inclusive postsecondary education resulting in improved long-term independent living and employment outcomes. Additionally, the Center addresses the gaps in knowledge about the participation of individuals age 13 to 26 with intellectual disabilities in postsecondary education programs by: (1) conducting a national survey to collect new national data from postsecondary programs that serve students with ID to identify key characteristics (e.g., recruitment, retention, college course access, use of accommodations) and promising practices of postsecondary education programs at community colleges, vocational-technical schools, and four-year colleges that currently serve students with ID, including dual enrollment programs; (2) conducting a secondary analysis using three existing national longitudinal datasets to determine whether variations in educational, vocational, employment, and independent living outcomes for students with ID are associated with participation in different types of postsecondary education programs; (3) compiling existing and developing new technical assistance materials, including replicable promising practices for postsecondary education institutions that are developing new or expanding existing services and programs for students with ID; and (4) disseminating both new and existing technical assistance and informational materials in partnership with existing training and technical assistance providers, including the NIDRR Research and Dissemination Centers, to all key stakeholders including students with ID and their families. The Institute for Community Inclusion works in collaboration with TransCen, Inc.
Disability and Rehabilitation Research Projects
New York

Asset Accumulation and Economic Self-Sufficiency (AAESS)

Syracuse University
Office of Sponsored Programs
113 Browne Hall
Syracuse, NY 13244

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Project Number: H133A080014
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 08 $300,000; FY 09 $300,000; FY 10 $300,000

Abstract: Building upon research conducted by the Asset Accumulation and Tax Policy Project (AATPP), the current project provides understanding of economic status of working age adults with disabilities, and policy and system barriers to asset accumulation and community participation. Two intervention studies contribute individual and system level knowledge impacting asset accumulation, economic self-sufficiency, and community participation of persons with disabilities. Intervention One: Resource, Employment, Assets, and Learning opportunity study, is an experimental design building on research in the IRS Benchmark Study of Taxpayers with Disabilities (2006) and longitudinal outcome research findings in AATPP. REAL evaluates the impact of asset building strategies on the economic status and community participation of 360 individuals with disabilities during the project in two pilot sites. Intervention Two: Building Economic Success Together (BEST) Accounts study, offers a comprehensive menu of accessible, user-friendly, affordable products and services in response to evidence from AATPP. BEST is offered by credit unions in six culturally and geographically diverse locations to 1,800 individuals with diverse disabilities and demographics such as age, gender, family, minority status, and recent service disability. Data analysis is used to identify increased use of asset building strategies, reduced dependence on payday and predatory lenders, reduction of debt, changes in economic status, and savings. Thematic analysis of focus groups and interviews produce knowledge on individual and system factors that diminish or facilitate opportunities to advance asset accumulation, self-sufficiency, and community participation measures of social, civic, and economic activities. AAESS continues collaboration with the IRS to design and conduct an updated and extended benchmark study in 2009 to further research on economic status of taxpayers differentiated by disability and demographics to help design future research. The project includes creation and dissemination of asset development and financial literacy curricula to complement other poverty-alleviation strategies.
School Transition & re-Entry Program (STEP): Systematic Hospital-to-School Transition for Students with Traumatic Brain Injury

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Project Number: H133A060075
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 06 $300,000; FY 07 $300,000; FY 08 $300,000; FY 09 $300,000; FY 10 $300,000

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

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Project Number: H133G100197
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 10 $189,923; FY 11 $189,923; FY 12 $189,923
Abstract: Recent evidence suggests that individuals with Down syndrome demonstrate deficits in adaptive, goal-directed behaviors called executive function (EF) skills; however, a systematic assessment of EF skills in this population has yet to be conducted. This project investigates the specific nature of the EF profile in DS as it relates to participation in daily living activities at home and school for individuals with and without intellectual disabilities. The goals of this cross-sectional research project include: (1) systematically examine the profile of executive function (EF) skills (e.g. working memory, inhibition, shifting, and planning) in school-aged individuals with Down syndrome (DS) comparing the results to children with idiopathic developmental delays (DD); (2) examine the nature of the relationship between EF skills and participation in daily life (e.g. self-care, classroom participation) while controlling for IQ; and (3) to explore age-related changes in the EF profile in DS cross-sectionally. The evaluation of children with idiopathic intellectual disabilities provides a comparison group thereby allowing researchers to determine if a specific profile is associated with DS or if the impairments of participating in daily life related to EF are associated with intellectual disability in general. Participants (n=35 DS, n=35 DD; CA range = 60 to 120 months) are matched on chronological age, nonverbal mental age, and receptive language age. Measures include standardized tests; experimental tasks including a previously piloted, state-of-the-art EF battery; and both teacher and parent-report measures of participation in daily activities including the revised, computerized Pediatric Evaluation of Disability Inventory and the School Function Assessment. Outcomes of this project identify the specific aspects of the DS cognitive profile related to participation in daily life. This provides a foundation for developing more effective, evidence-based interventions to ultimately maximize the inclusion of individuals with DS into society.
Assessing Safety Risk after Traumatic Brain Injury

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Project Number: H133G080153
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 08 $199,896; FY 09 $199,613; FY 10 $199,965

Abstract: This project develops a standardized, ecologically valid measure of safety risk in persons ages 16 and older who have sustained mild complicated, moderate, or severe traumatic brain injury (TBI). An ecologically sensitive item bank is developed to assess the wide range of potential safety issues that persons with TBI face in everyday living situations. Focus groups are conducted with primary stakeholders including persons with TBI, family caregivers, and service providers to establish content validity. Item Response Theory methodologies, specifically Rasch analysis, are used to calibrate items along a hierarchy matching item difficulty to the safety abilities of persons with TBI. Based on Rasch analyses, the safety measure for persons with TBI generates safety risk probability scores on four scales theorized to be causative factors: physical capacity, cognitive capacity, perceived susceptibility to harm (judgment), and self-regulation (impulsivity). Ecological and prognostic validity is established using family journals in which unsafe behavior of persons with TBI is recorded and rated.
Promoting Health, Empowerment, and Community Integration Among People with HIV/AIDS: The Medication Adherence Program Study-II (MAPS-2)

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Project Number: H133G060224
Start Date: November 01, 2006
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 06 $147,341; FY 07 $145,861; FY 08 $146,908; FY 09 $0 (No-cost extension through 10/31/2010); FY 10 $0 (No-cost extension through 10/31/2011)

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, a three-year, NIDRR-funded investigation of the impact of specialized medication adherence services provided to people living with HIV/AIDS.
Field Initiated Projects (FIPs)
Kansas

Accommodations and ADA for Post-Secondary Students with Disabilities

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

Abstract: This project develops an accommodations training technology (ATT) designed to maximize the skills of students with disabilities to advocate for accommodations needed to succeed in postsecondary educational settings. The ATT uses evidence-based research from a recently completed single-subject research study that empirically demonstrated post-secondary students’ improvement of their self-advocacy skills and knowledge about their legal rights and responsibilities under the ADA, by participating in a researcher-designed training package. The new program further enhances the previous work by using a state-of-the-art interactive computer program that is scaleable and meets the preferences of the target population, coupled with a skills based training component that is both flexible and portable (e.g., hand-held electronic devices via interactive text with graphics, Adobe Flash, Apple Quicktime, enhanced iPod and MP3 media formats). The project goal is to provide postsecondary students with disabilities the knowledge and skills to acquire needed ADA accommodations in postsecondary educational settings. The objectives are: (1) utilize the Consumer Empowered Team participant advisers to review and update current content curriculum and design a facilitator manual; (2) design online components to deliver the ATT model; (3) replicate face-to-face application of the ATT model in Round 1 with six students with disabilities at one university setting. (4) replicate the revised (from Round 1) ATT model in Round 2 with 24 students with disabilities at 2 universities, using online applications and facilitator manual; (5) conduct a pilot test of the finalized (from Rounds 1 and 2) ATT model with 60 students with disabilities at 2 universities; and (6) develop and implement a marketing plan to distribute and publicize the product that results from this development project.
Development of Measures of Participation and Environment for Children with Disabilities

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Project Number: H133G070140
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 07 $195,233; FY 08 $195,360; FY 09 $197,023; FY 10 $0 (No-cost extension through 09/30/2011)

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)
Massachusetts

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

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Project Number: H133G090046
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 09 $199,998; FY 10 $199,994; FY 11 $199,998
Abstract: This randomized control trial implements, evaluates, and disseminates a life skills intervention to increase skills necessary for achieving housing stability and community participation and living for 150 homeless adults with disabilities. These skills include home and self-care management, food management, financial management, and safe community participation. The objectives of this study are to: (1) evaluate the ability of the intervention to improve housing stability and increase participants’ level of community integration, including the steps they take toward employment and self-sufficiency; (2) identify the feasibility issues inherent in delivering interventions to this highly vulnerable population; and (3) train agency staff and peer mentors to enable project sustainability. This three-year project is a partnership between Boston University, HomeStart, the Pine Street Inn, and the National Center for Family Homelessness. These Boston-area partner agencies offer Housing Search, Housing Stabilization, and Housing First programs, which provide a diverse set of conditions for implementation evaluation. The project uses a manualized intervention that was developed for a previous project with homeless adults with mental illness and is based on empowerment theory, social learning theory, and the model of human occupation.
Do Animations Facilitate Symbol Understanding in Children with Autism?

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Project Number: H133G100187
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 10 $199,996; FY 11 $197,259; FY 12 $197,259

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

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

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**Project Number:** H133G090006  
**Start Date:** October 01, 2009  
**Length:** 36 months  
**NIDRR Officer:** Margaret Campbell, PhD  
**NIDRR Funding:** FY 09 $195,188; FY 10 $196,819; FY 11 $200,000

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

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; FY 08 $199,985; FY 09 $199,987; FY 10 $0 (No-cost extension through 09/30/2011)

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 ten 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 participates 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)
New York

Controlled Study of Affect Recognition Training for Individuals with Traumatic Brain Injury

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Project Number: H133G080043
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 08 $200,000; FY 09 $200,000; FY 10 $200,000
Abstract: This project utilizes a random control trial to compare the effects of two innovative training programs on improving various aspects of emotion recognition in persons with traumatic brain injury (TBI). It has been demonstrated that individuals with TBI often have difficulty using facial expressions and social contexts to determine how someone is feeling. It is apparent that an impairment of this nature could considerably influence the behavioral and social outcomes for individuals with TBI. In this study, participants are randomly assigned to one of three groups: Facial Affect Recognition training, Stories of Emotional Inference training, or (no treatment) Computer Training Group. Training occurs three times a week for three weeks. Specific outcome measures include: (1) facial affect recognition (static photos), (2) affect recognition and social inference from video vignettes, (3) emotional inference for hypothetical situations, (4) level of empathy, and (5) social behavior. Cognitive performance and level of depression are covariates. In addition, vocal affect recognition (audiotape) and community integration are also explored.
Field Initiated Projects (FIPs)
New York

Direct vs. Interpreted Administration of the SPAT

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Project Number: H133G090189
Start Date: October 01, 2009
Length: 24 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 09 $101,484; FY 10 $98,500

Abstract: The goal of this two-year study is to determine whether direct administration of the Signed Paired Associates Test (SPAT) by sign-fluent examiners yields test results that are equivalent to administration by examiners who communicate through a qualified sign language interpreter. A second objective is to investigate the influence of age on SPAT performance, which has not yet been done and would aid the design of later studies seeking to establish reliable age norms. The study design allows researchers to control for age-related variation in SPAT performance and determine whether the results of SPAT direct administration versus SPAT interpreter-mediated administration vary as a function of age. Finally, the project statistically estimates the relative effects of interpreter use per se versus the use of particular interpreters on SPAT performance. SPAT, developed through NIDRR funding, is the first psychological test of verbal (i.e., language-based) learning and memory designed for use with deaf individuals who communicate in sign language.
Field Initiated Projects (FIPs)
New York

Peer-to-Peer Project: A Peer Support Network for Students with Significant Intellectual and Developmental Disabilities in Higher Education

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Project Number: H133G100226
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 10 $195,506; FY 11 $188,867; FY 12 $196,832

Abstract: This project develops a network of undergraduates at the School of Education, to provide peer supports to students with significant intellectual and developmental disabilities (IDD) taking classes at Syracuse University (SU). SU has two programs for students with IDD: OnCampus, through the Syracuse City School District (a dual enrollment program for students up to age 21 in high school); and the Access Program, with Onondaga Community Living (for students over age 21 who have finished high school). Students with IDD at SU audit courses to meet personal, academic, and vocational goals. The Peer-to-Peer Project operates from an innovative, universally designed, and person-centered framework that uses Peer support students in flexible, individualized ways, as needed by students with IDD to fulfill goals and maximize inclusion. Peer support students commit to one year that includes training through a three-credit independent study option. To reduce the potential of a medicalized helping model and increase age-appropriate peer interactions, all students also interact socially, through social activities and the use of texting. The project begins as a one-semester pilot, fully implemented, and is expanded in years two and three to include greater numbers of participants. Intensive mixed-methods evaluation occurs at all phases, and is supervised by an external evaluator.
Improving Representative Payeeship for People with Psychiatric Disabilities and their Families

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Project Number: H133G070072
Start Date: October 01, 2007
Length: 36 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 07 $198,669; FY 08 $199,187; FY 09 $169,372; FY 10 $0 (No-cost extension through 05/31/2011)

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, and 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 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.”
Improving Money Management Skills in Veterans with Psychiatric Disabilities

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Project Number: H133G100145
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: A. Cate Miller, PhD
NIDRR Funding: FY 10 $198,320; FY 11 $198,141; FY 12 $199,785
Abstract: This project evaluates a pilot-tested, stake-holder informed intervention grounded in principles of psychiatric rehabilitation designed to develop money management skills and informed financial judgment among veterans with psychiatric disabilities. Veterans with psychiatric disabilities face unique challenges concerning money management. Financial strain, money mismanagement, and homelessness have been well documented among veterans with psychiatric disabilities and linked to poor outcomes. Steps for Achieving Financial Empowerment ($AFE) is an individualized, psycho-educational intervention that teaches veterans with psychiatric disabilities how to save money, create a viable budget, avoid money scams and financial exploitation, and access vocational and mental health resources. Two-hundred veterans with psychiatric disabilities are randomly assigned to two groups: (1) the $AFE intervention or (2) a “usual care” control, and interviewed at baseline and six months. By fostering financial skills and judgment, the $AFE increases employment, boosts work motivation, and reduces disablement; thereby reducing psychiatric symptoms and homelessness among veterans with psychiatric disabilities and bolstering self-determination and empowerment within this population.
Daily Living and Community Skills Video Game for Children with Developmental Disabilities

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Project Number: H133G080151
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 08 $199,175; FY 09 $199,765; FY 10 $99,258

Abstract: This project develops and evaluates a simulation video game to teach children with developmental disabilities, including autism and intellectual disabilities, skills for independence. The project teaches chained tasks in an engaging and effective game format. This system provides an innovative and inexpensive way to increase opportunities for instruction while providing correction procedures, giving multiple exemplars, monitoring progress, and including clips from each student’s community. This project expands on the preliminary findings in a Phase I study to develop an easy to use, economical, daily living skills game which brings real world experiences and treatment into the classroom and home. Project goals include: (1) to expand on the successful techniques demonstrated in preliminary studies to create a fully-functional game with 24 skills, and (2) to verify through a single subject design, specifically multiple probes across behaviors, that the simulation video game alone teaches the skills to 24 children in elementary and middle school with developmental disabilities. A team of educational experts, technology experts, and parents of children with disabilities collaborate on the project to ensure the skills presented in the game are truly beneficial to individuals with developmental disabilities and the technology used will have the greatest reach.
Field Initiated Projects (FIPs)
Ohio

Web Therapy to Improve Outcomes After Traumatic Brain Injury in Young Children

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Project Number: H133G060167
Start Date: December 01, 2006
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 06 $149,379; FY 07 $147,834; FY 08 $146,762; FY 09 $0 (No-cost extension through 11/30/2010); FY 10 $0 (No-cost extension through 11/30/2011)

Abstract: This project adapts an online family problem solving tool for families of young children with traumatic brain injury (TBI) (I-InTERACT: Internet-based Interacting Together Everyday - Recovery After Childhood TBI) and compares it to an Internet resource comparison group (IRC) in a randomized clinical trial. Participants include families of 40 children, aged 3 to 8 years, who experienced a moderate to severe TBI 1 to 24 months prior to study participation. In I-InTERACT, a trained counselor guides families through a six-month structured online parenting skills-building program via a website and one-on-one videoconference sessions. The IRC group receives computers, high-speed Internet access, and links to brain injury information and resources, but not the I-InTERACT website content or synchronous sessions. Primary outcomes, to be assessed pre- and post-treatment, include parenting behaviors (e.g., warmth, responsiveness, and criticism) and parent-child communication. Secondary outcomes include child behavior problems and parent psychological distress. The overarching goal of this project is to reduce the risk of long-term behavioral problems and disability in young children following TBI by equipping parents with increased coping and parenting skills in a cost effective fashion.
Field Initiated Projects (FIPs)
Ohio

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

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Project Number: H133G080158
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 08 $199,973; FY 09 $199,871; FY 10 $199,973

Abstract: This project is designed to address need for sustainable, community-based programs for students with severe and multiple disabilities (SMD) aged 18 to 21 by using the college campus as a transition setting. It also addresses the need for SMD transition professionals to obtain skills in the areas of person-centered planning, community partnering, and interagency collaboration. Students with SMD are enrolled in a college-level continuing education class on life planning provided by Kent State’s Career Services Center. A university instructor directs this class, and collaborating SMD professionals and Kent State students receive service learning credits for providing person-centered planning and individualized campus activities for the participating students with SMD. These planning and campus activities are coordinated with students’ individual education and employment plans. Students with SMD are also enrolled in at least one college-level class each semester to assure that they have access to all of Kent State’s services including career planning, health and wellness, student employment, extracurricular activities, and life-long learning opportunities. To achieve these outcomes, project staff pursue five objectives: (1) develop college classes for 30 students with SMD that engage practicing and prospective transition professionals in their life and career planning; (2) develop and implement daily campus activities for 30 students with SMD based on their life plans; (3) engage students with SMD, their teachers, university faculty, and other transition stakeholders in evaluating, refining, and supporting this model; (4) develop materials for replication of this model; and (5) disseminate and replicate this project at other universities.
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; FY 08 $200,000; FY 09 $199,999; FY 10 $0 (No-cost extension through 09/30/2011)

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 and 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 previous 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.
Parent-Infant Interaction Project (PIIP)

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Project Number: H133G080132
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 08 $199,945; FY 09 $199,950; FY 10 $199,938

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

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

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

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Project Number: H133G090036
Start Date: August 16, 2009
Length: 36 months
NIDRR Officer: Doris Werwie, PhD
NIDRR Funding: FY 09 $199,962; FY 10 $199,585; FY 11 $199,433

Abstract: This project examines environmental factors that can promote or impede participation in community life for persons with psychiatric disabilities who live independently. While recent research has documented how individual factors can affect integration (e.g., participation in activities, feelings of belonging), relatively little is known about the community-based factors that can affect community integration for persons with mental illness. The study has three specific aims: (1) document the range of housing and neighborhood environment conditions for persons with psychiatric disabilities who live in their own dwelling without resources from supported housing; (2) develop and test a framework of environmental factors that can promote or impede community integration across four domains: physical, social, psychological, and opportunities for integration; and (3) advance methodology for community integration research by (a) testing competing measures of physical, social, psychological integration, and integration opportunities, and (b) using Geographic Information Systems to facilitate analyses of environmental factors. This project addresses the gap in knowledge about environmental factors and integration by investigating how housing conditions, neighborhood conditions, interpersonal relationships tied to housing, and census indicators of community composition may affect community integration efforts of persons with psychiatric disabilities.
Development of an Internet-Based Self-Esteem Intervention for Women with Disabilities

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Project Number: H133G080042
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 08 $200,000; FY 09 $200,000; FY 10 $200,000

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

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Project Number: H133S100056
Start Date: October 01, 2010
Length: 6 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 10 $74,956

Abstract: This project develops and evaluates the feasibility of a client-server application that integrates accessible life management tools for individuals with disabilities and those who support them in residential environments to improve the independent living capacity of persons with cognitive disabilities. A common database of information about an individual’s life and needs is developed providing relevant, actionable, and accessible data delivered to either the consumer or other stakeholders such as family members or support staff. The system is accessible from both desktop and mobile platforms with wireless connectivity to a shared database that pushes relevant data to consumer and caregiver users and that integrates with “cloud computing” applications in compliance with electronic health record standards. This system draws from several data sources, including individualized service plans; medical records; sensor data from “smart home” monitoring systems; location context; and key events from consumer and caregivers that define important personal care routines, household management tasks, and rehabilitation activities.

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Project Number: H133S090138
Start Date: October 01, 2009
Length: 24 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 09 $249,821; FY 10 $249,592

Abstract: Phase II of this project continues the development of an intelligent computer-based task management application to augment the functional cognitive ability of individuals with disabilities in a community living setting who cannot use text-based and complicated commercial personal management applications. The computer-based application is unique in that it is cognitively accessible and includes intelligent features for context-aware task tracking. Users are able to manually enter data on the accomplishment of personal care and household management tasks. The application also integrates data on task accomplishment that are provided remotely by caregivers and by residential sensor networks, often referred to as “smart homes.” In either case, the user benefits from augmented self-management ability. The goal is to produce a research-tested, commercially deployable software application with components for use on desktop, mobile, and Web platforms that enable individuals with cognitive disabilities to use innovative information technology for increased and effective self-management.
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, PhD
NIDRR Funding: FY 04 $700,000; FY 05 $700,000; FY 06 $700,000; FY 07 $700,000; FY 08 $700,000; FY 09 $0 (No-cost extension through 11/30/2010)

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

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

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Project Number: H133B090024  
Start Date: October 01, 2009  
Length: 60 months  
NIDRR Officer: Dawn Carlson, PhD, MPH  
NIDRR Funding: FY 09 $850,000; FY 10 $850,000; FY 11 $850,000; FY 12 $850,000; FY 13 $850,000

Abstract: This project focuses on combining innovative measurement, data collection, and reporting methods with practical concerns for usability, implementation, and multi-user communication. Measurement of the cognitive and environmental factors affecting participation is hampered by instruments that are not tailored appropriately to persons with disabilities or for use in time-pressed clinical settings. This project focuses on persons with traumatic brain injury, spinal cord injury, and stroke because these groups experience complex cognitive, physical, sensory, and emotional impairments that limit access to and use of standardized test protocols. Specific project goals include: (1) increasing the accessibility of measures of cognitive function for use in rehabilitation settings so that consumers’ needs and outcomes are documented; (2) examining the reliability, validity, and sensitivity of measures of cognitive function for persons with disabilities within major item banks including the NIH Toolbox, the Executive Function Performance Test, NeuroQOL, TBI-QOL, SCI-QOL and SCI-CAT projects; (3) evaluating and refining measures of barriers and facilitators of community participation enabling better evaluation of the outcomes of rehabilitation services; (4) utilizing the large set of data to examine the validity of the cognitive items on the Continuity and Record Evaluation Tool, a standardized patient assessment instrument developed by the Centers for Medicare and Medicaid Services; and (5) evaluating the extent to which the International Classification of Functioning, Disability, and Health (ICF) represents disablement characteristics by mapping instruments collected as part of project activities to concepts within the ICF. This RRTC conducts research; hosts forums for discussion; publishes in the rehabilitation science, health policy, and consumer literature; trains new researchers in rehabilitation-focused health services research; and disseminates information to diverse scientific, clinician, consumer and policymaker audiences.
Rehabilitation Research and Training 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; FY 08 $0 (No-cost extension through 11/30/2009); FY 09 $0 (No-cost extension through 11/30/2010)

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.
Rehabilitation Research and Training Centers (RRTCs)
New York

Rehabilitation Research and Training Center on Disability Statistics and Demographics

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

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

Health Care Disparities in Access and Utilization among Individuals with Disabilities

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Project Number: H133G90133
Start Date: October 01, 2009
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 09 $194,848; FY 10 $196,063; FY 11 $199,232
Abstract: This project analyzes survey data to identify health disparities among individuals with disabilities. The project combines survey data from the National Health Interview Survey and the Medical Expenditure Panel Survey, pooling six years of data to enhance sample size. Through multivariate analyses, it examines two system level factors (health insurance and patient/provider interactions), and three individual level factors (race and ethnicity, socioeconomic status, and disability type), and their contribution to health care disparities. The measures of access and utilization mirror those included in the series of Agency for Healthcare Research and Quality National Healthcare Disparities reports. Researchers identify “doubly underserved” individuals: subpopulations with disabilities that are disparately impacted by system and individual characteristics. The project also examines the extent to which system and individual level factors differentially affect individuals with disabilities, relative to individuals without disabilities.
Field Initiated Projects (FIPs)
Minnesota

Development and Use of a Multi-State Database on Individual Outcomes and their Predictors for Persons with Intellectual and Developmental Disabilities in the US

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Project Number: H133G080029
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 08 $200,000; FY 09 $199,999; FY 10 $199,999

Abstract: The focus of this project is the National Core Indicators (NCI) Program, the most widely used program of outcomes assessment for persons with disabilities in the US. Today 24 states participate in at least bi-annual NCI-based outcome research on a minimum of 400 randomly selected persons with intellectual and developmental (ID/DD) receiving publicly-financed services. Participating states receive validated, psychometrically-tested instrumentation, technical assistance with random selection procedures, standardized training of interviewers, and a centralized system of data quality review, coding, and analysis. The purpose of the study is: (1) to merge and analyze the wholly congruent records of more than 10,000 randomly sampled adults from 15 purposely selected, nationally distributed states to examine the interactions among individual characteristics, service delivery models and settings, and individual outcomes and experiences; and (2) to carefully evaluate and refine, as needed, the measures and methods of the NCI program to assure maximum validity and utility in assessing quality of support to persons with ID/DD. Merging the wholly congruent state data sets provides a unique opportunity to use and refine a research data set of incomparable size, flexibility, national representation, and consistency with national goals for supports to persons with ID/DD.
Impact of Prospective Payment and Rehabilitation Outcomes

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Project Number: H133G080163
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: Joyce Y. Caldwell
NIDRR Funding: FY 08 $199,386; FY 09 $198,085; FY 10 $199,969

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

A National Assessment of the Rates and Correlates of Alcohol and Other Drug Use by College Students with Disabilities

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Project Number: H133G080123
Start Date: October 01, 2008
Length: 36 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 08 $199,999; FY 09 $200,000; FY 10 $199,999

Abstract: This project studies the rates of substance use and abuse, the correlates of such use, and the impact of such use on college students with disabilities. These students face a number of challenges that may inhibit their performance and limit their acquisition of college degrees. The failure to perform to standard or to complete a college degree can have severe and long-lasting consequences in terms of lifelong employment, community integration, and the overall health and well-being of persons with disabilities. Although there are many barriers to the successful acquisition of a college degree, much of the current research in the field of higher education centers on the negative effects of substance use and abuse. Use of alcohol and other drugs by college students, regardless of disability, is associated with a number of negative outcomes. Notable among these are school failure and drop-out, a wide variety of health concerns, and a number of legal issues. To date, little is known about the rates of substance use and abuse by college students with disabilities. Research with general samples of people with disabilities note that such individuals abuse alcohol and other drugs at rates 10 to 20 times that of the general population; preliminary studies with students with disabilities suggest that they are also heavy users of alcohol and other drugs. By detailing the state of affairs nationally, this study allows for a broad understanding of the rates of substance use by college students with disabilities; details the impact of such use on academic performance, health and well-being; allows for the determination of factors related to both substance use and abstinence; aids in the development of prevention efforts; and provides aggressive dissemination of information on such issues to a wide audience of consumers and service providers.
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; FY 09 $199,830; FY 10 $0 (No-cost extension through 09/30/2011)

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 program. Although younger beneficiaries comprise only 14.1 percent of the total Medicare population, they account for about 17 percent ($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; FY 08 $625,000; FY 09 $625,000; FY 10 $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 to expand its current activities and implement innovative new tasks to accomplish the following goals: (1) maintenance of the SCIMS database, (2) high-quality data in the SCIMS database, (3) high quality data collected from database participants of all racial/ethnic backgrounds, (4) rigorous SCIMS database research conducted by all investigators, (5) enhanced continuity of the SCIMS database, and (6) improved database operations through collaboration. In particular, the project takes advantage of the latest Internet and centralized database technology to rewrite the database software from its current distributed format to a centralized web-based system, which significantly improves the capability to manage new data module projects, increases cost-efficiency, improves quality control, and enhances data security. To promote best research practices across the SCIMS, the Center establishes an annual online comprehensive training curriculum for SCIMS data collectors, conducts evaluative site visits, publishes a guide regarding proper use of the database, and refines standards on culturally appropriate SCI research. The project includes subcontracts with formerly-funded SCIMS centers to continue data collection for patients previously enrolled in their research. The Center continues to benefit from the active involvement of persons with SCI and productive partnerships with other NIDRR-funded centers in the design, implementation, and evaluation of these activities.
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; FY 08 $499,947; FY 09 $491,473; FY 10 $0 (No-cost extension through 10/31/2011)

Abstract: This project is working collaboratively with 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 on Knowledge Translation for Technology Transfer

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Center for Assistive Technology
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Principal Investigator: Joseph Lane 716/204-8606, x211
Public Contact: 716/204-8606 (V); 877/742-4141 (V); 716/204-8606 (TTY); Fax: 716/204-8610

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

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

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The State University of New York
Center for Assistive Technology
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Principal Investigator: John Stone, PhD 716/829-3141, ext. 125
Public Contact: Marcia E. Daumen 716/829-3900, ext. 146; Fax: 716/829-2211

Project Number: H133A050008
Start Date: November 01, 2005
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 05 $500,000; FY 06 $500,000; FY 07 $500,000; FY 08 $500,000; FY 09 $500,000; FY 10 $0 (No-cost extension through 10/31/2011)

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 World Health Organization 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 curriculum guides and monographs, 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 US 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  
New York  

Center for International Rehabilitation Research Information & Exchange (CIRRIE-3)  

The Research Foundation of SUNY on behalf of the University at Buffalo  
Center for Assistive Technology  
515 Kimball Tower  
Buffalo, NY 14214  
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Principal Investigator: John Stone, PhD  
Public Contact: 716/829-6739; Fax: 716/829-3217  

Project Number: H133A100021  
Start Date: October 01, 2010  
Length: 60 months  

NIDRR Officer: Dawn Carlson, PhD, MPH  
NIDRR Funding: FY 10 $399,994; FY 11 $399,994; FY 12 $399,992; FY 13 $399,992; FY 14 $399,995  

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

National Center for the Dissemination of Disability Research (NCDDR)

SEDL
4700 Mueller Boulevard
Austin, TX 78723
sharon.malmquist@sedl.org
www.ncddr.org

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

Project Number: H133A060028
Start Date: January 01, 2006
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 06 $750,000; FY 07 $750,000; FY 08 $750,000; FY 09 $750,000; FY 10 $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; and (4) technical assistance is provided to NIDRR grantees to build understanding, skills, and resources related to the dissemination and utilization of their disability research outcomes. Activities include providing onsite and offsite assistance in planning effective dissemination efforts, providing direct assistance to grantees with targeted dissemination efforts, and assisting in designing evaluation strategies to measure dissemination and utilization outcomes.
Disability and Rehabilitation Research Projects
Texas

**SEDL Center on Knowledge Translation for Employment Research**

Southwest Educational Development Lab (SEDL)
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Austin, TX 78723
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**Principal Investigator:** John Westbrook, PhD
**Public Contact:** 512/391-6517; Fax: 512/476-2286

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

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

Principal Investigator: Brian T. McMahon, PhD 804/827-0917
Public Contact: Cynthia Young 804/828-3875; 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; FY 08 $849,991; FY 09 $849,968; FY 10 $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, DBTAC-IN, 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 five planning conferences with regional DBTACs, 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. Original CORC research has an employment emphasis. CORC activities include 19 original research projects involving the National EEOC ADA Research Project, 15 training activities in collaboration with the regions, dissemination and outreach projects, research and consultation with Regional DBTACs, technical assistance projects, and program evaluation.
Disability and Rehabilitation Research Projects
Washington

Model Systems Knowledge Translation Center (MSKTC)

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Center for Technology and Disability Studies
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Principal Investigator: Kurt Johnson, PhD
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Project Number: H133A060070
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 06 $598,163; FY 07 $598,833; FY 08 $599,876; FY 09 $599,352; FY 10 $599,837
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)
Illinois

Development of Quality Measures for Post-Stroke Rehabilitation

The Rehabilitation Institute Research Center
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Principal Investigator: Anne Deutsch, RN, PhD, CRRN
Public Contact: 312/238-2826; Fax: 312/503-2936

Project Number: H133G100182
Start Date: October 01, 2010
Length: 36 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 10 $199,691; FY 11 $199,973; FY 12 $175,751

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

Northeastern University
Department of Speech, Language, Audiology, and Pathology
151B Forsyth Street
Boston, MA 02115-5000
r.schlosser@neu.edu
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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: Pimjai Sudsawad, ScD
NIDRR Funding: FY 07 $195,525; FY 08 $199,910; FY 09 $198,889; FY 10 $0 (No-cost extension through 09/30/2011)

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

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

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

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

ABLEDATA

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Principal Investigator: Katherine Belknap 301/608-8998, ext. 105
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Project Number: ED-04-CO-0018/0007
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 08 $779,573; FY 09 $779,573

Abstract: This project maintains and expands the ABLEDATA product information database, develops information and referral services that are responsive to the special technology product needs of consumers and professionals, and provides the data to major dissemination points to ensure wide distribution and availability of the information to all who need it. The ABLEDATA database contains information on more than 34,000 commercially produced and custom-made assistive devices. Requests for information are answered via telephone, mail, electronic communications, or in person.
ADA Technical Assistance Programs

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

Contents

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

DBTAC-New England ADA Center - Region I

Institute for Human Centered Design
200 Portland Street, First Floor
Boston, MA 02114
adinfor@newenglandada.org
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Principal Investigator: Valerie Fletcher 617/695-1225, ext. 226
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; FY 08 $1,053,190; FY 09 $1,075,716; FY 10 $1,083,736

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.
ADA Technical Assistance Projects
Region II - NJ, NY, PR, and VI

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: Susanne Bruyère, PhD, Project Director; Wendy Strobel Gower; 607/255-6751
Public Contact: Wendy Strobel Gower, Project Coordinator 607/255-6751; Fax: 607/255-2763

Project Number: H133A060088
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 06 $1,105,000 ; FY 07 $1,105,000 ; FY 08 $1,105,000 ; FY 09 $1,105,000 ; FY 10 $1,105,000

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

DBTAC: Mid-Atlantic ADA Center

TransCen, Inc.
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Rockville, MD 20850-4151
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Principal Investigator: Richard G. Luecking, PhD 301/424-2002
Public Contact: Marian S. Vessels, Project Director 800/949-4232 (V/TTY, in DC, DE, MD, PA, VA, and WV); 301/217-0124 (V/TTY); Fax: 301/217-0754

Project Number: H133A060085
Start Date: October 01, 2006
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 06 $1,098,929; FY 07 $1,098,929; FY 08 $1,098,929; FY 09 $1,098,929; FY 10 $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.
ADA Technical Assistance Projects
Region IV - AL, FL, GA, KY, MS, NC, SC, and TN

DBTAC: Southeast ADA Center - Region IV
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Principal Investigator: Peter D. 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; FY 08 $1,105,000; FY 09 $1,105,000; FY 10 $1,105,000

Abstract: The DBTAC: Southeast ADA Center (Southeast DBTAC) provides technical assistance, training, and information dissemination for Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. Southeast DBTAC meets ADA-related information, training, and technical assistance needs of multiple public and private stakeholders through the provision of five core services: (1) information dissemination, (2) education and training, (3) technical assistance, (4) information referral, and (5) public awareness events. The Southeast DBTAC’s research plan extends the state of knowledge about employer corporate culture and business practices, and ADA impact on civic action to reduce and eliminate barriers to full civic, social, and economic participation for Americans with disabilities. The Southeast DBTAC is lead by a consortium that includes four nonprofit institutions recognized for their knowledge of civil rights protections and impact across covered environments, access, and use of assistive technology (AT), employment and independent living, and consumer self-direction and advocacy. The organizations with a history of collaborative activity are Burton Blatt Institute of Syracuse University, Center for Assistive Technology and Environmental Access (CATEA) at Georgia Institute of Technology, Living Independence for Everyone of Jackson, Mississippi, and Partnerships in Assistive Technology of North Carolina. To continue responsiveness to employers, large and small within the region, the Southeast DBTAC established a Business Leadership Council (BLC) with ten stakeholders with a record of hiring and advancing workers with disabilities. The BLC provides advice and important linkages to the business community throughout the southeast to exchange research findings and knowledge that improves opportunities for employment for persons with disabilities. Half of core staff are persons with disabilities and/or represent historically underrepresented groups because of race, gender, national origin, and age. People with disabilities continue to direct core components of the Center’s activities related to training and technical assistance and information dissemination. The Southeast DBTAC has an extensive collaborative network of over 99 local affiliates in all 8 states in the region that builds on the strengths and experiences of a diverse cross-section of individuals with and without disabilities representing disability, business, and governmental entities.
ADA Technical Assistance Projects
Region V - IL, IN, MI, MN, OH, and WI

DBTAC: Great Lakes ADA Center

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www.adagreatlakes.org
ada-audio.org
www.accessibilityonline.org
www.accessibletech.org
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Principal Investigator: Robin A. Jones, Project Director 312/996-1059
Public Contact: Robin Jones 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 ; FY 08 $1,105,000 ; FY 09 $1,105,000 ; FY 10 $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 on-going 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 strate-
gies 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.
Principal Investigator: Wendy Wilkinson, Project Director
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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; FY 08 $1,104,885; FY 09 $1,104,796; FY 10 $1,104,800

Abstract: The Southwest DBTAC provides a comprehensive array of training, technical assistance, and dissemination services on the ADA and other disability-related laws in the five states of Federal Region VI. The goals of these activities are to improve the employment outcomes of individuals with disabilities and maximize their full inclusion into society. Through a collaborative structure of partners, the Southwest DBTAC provides an array of services including: (1) research activities that identify impediments to compliance with the ADA and individuals’ access to technology, postsecondary education, and the workforce, as well as tested solutions and innovative approaches to eliminate these impediments; (2) training activities that offer comprehensive, accurate, and timely information on the ADA’s requirements, developments in case law, policy, and implementation to promote compliance with the ADA; (3) dissemination activities that increase knowledge about the ADA and DBTAC services through an effective, coordinated resource network for Region VI; and (4) technical assistance activities that respond to the needs of individuals and entities on the ADA and foster the development of new and promising practices that can be shared with others. Southwest DBTAC’s network includes such organizations as the New Mexico Technology Assistance Project, the Southwest Education Development Laboratory, Arkansas Technology and Curriculum Access Center, Bureaus of Apprenticeship Training or State Apprenticeship Councils in each state, Valley Association of Independent Living, North Harris College, and other organizations and businesses that have demonstrated success in improving the lives of individuals with disabilities.
ADA Technical Assistance Projects
Region VII - IA, KS, MO, and NE

DBTAC - Great Plains ADA Center - Region VII

University of Missouri at Columbia
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Principal Investigator: Jim de Jong, Project Director
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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; FY 08 $1,100,000; FY 09 $1,100,000; FY 10 $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, and 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. Great Plains DBTAC is the lead sponsor of the ADA Symposium, the annual national ADA training in St. Louis (www.adasymposium.org).
ADA Technical Assistance Projects
Region VIII - CO, MT, ND, SD, UT, and WY

DBTAC Rocky Mountain ADA Center - Region VIII

Meeting the Challenge, Inc.
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Colorado Springs, CO 80907-5072
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www.adainformation.org

Principal Investigator: Jana Copeland, PhD, Project Director 719/444-0268
Public Contact: 800/949-4232 (V/TTY, in CO, MT, ND, SD, UT, and WY); 719/444-0268 (V/TTY);
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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; FY 08 $1,105,000; FY 09 $1,105,000; FY 10 $1,105,000

Abstract: This mission of the DBTAC Rocky Mountain ADA Center is to provide individuals and organizations in Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming with information on the ADA. Meeting the Challenge (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 provides tailored materials that provide actionable information for the specific needs of target groups. The capacity of this DBTAC is expanded through an ADA Leadership Network of 30-35 experts from across the region. To inform the technical assistance delivered by the DBTAC and to produce evidence-based reports on ADA implementation, MTC has allocated 15 percent of the DBTAC project budget to a coherent, sustained research agenda. Research is conducted by a team of research organizations from across the region, including Dr. Martin Blair at the Utah State University Center for People with Disabilities, Dr. Kathy Laurin at the University of Montana Rural Institute, and Patricia Yeager, a doctoral candidate at the University of Northern Colorado. The team is engaged in an initial program of research that has been coordinated through the DBTAC Coordination and Outreach Center. The focus of the project’s ADA research agenda is improving employment outcomes for people with disabilities. The results of the DBTAC research program are 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. The DBTAC program includes an extensive plan of evaluation based on reviewing operational activities monthly and performance metrics quarterly and annually. The output and outcome evaluation is based on the DBTAC logic model developed by MTC over the past several years.
Disability and Business Technical Assistance Center (DBTAC) — Pacific ADA Center

Public Health Institute
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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; FY 08 $1,105,000; FY 09 $1,105,000; FY 10 $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; 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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Principal Investigator: Kathe Matrone, PhD 425/771-7436
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Project Number: H133A070048
Start Date: August 01, 2007
Length: 48 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 07 $467,600 ; FY 08 $1,105,000 ; FY 09 $1,105,000 ; FY 10 $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

University of Illinois at Chicago
Center on Mental Health Services Research and Policy
1601 West Taylor Street, 4th Floor, M/C 912
Chicago, IL 60612
jonikas@psych.uic.edu
www.psych.uic.edu/uicnrtc

Principal Investigator: Judith A. Cook, PhD 312/355-3921
Public Contact: Jessica A. Jonikas 312/355-1696 (V); 312/422-0706 (TTY); Fax: 312/355-4189

Project Number: H133B050003
Start Date: October 01, 2005
Length: 60 months
NIDRR Officer: David W. Keer
NIDRR Funding: FY 05 $500,000; FY 06 $500,000; FY 07 $500,000; FY 08 $1,300,000; FY 09 $500,000; FY 10 $0 (No-cost extension through 09/30/2011)
Other Funding: FY 05 $800,000 Centers for Mental Health Services (CMHS); FY 06 $800,000 CMHS; FY 07 $800,000 CMHS; FY 08 $800,000 CMHS; FY 09 $800,000 CMHS

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

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

The Board of Trustees of the University of Illinois
Center on Mental Health Services Research and Policy
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**Project Number:** H133B100028
**Start Date:** October 01, 2010
**Length:** 60 months
**NIDRR Officer:** David W. Keer
**NIDRR Funding:** FY 10 $649,976; FY 11 $649,976; FY 12 $649,976; FY 13 $649,976; FY 14 $649,976

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

University of Illinois at Chicago
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Principal Investigator: Fabricio E. Balcazar, PhD; Yolanda Suarez-Balcazar; 312/413-1646; 312-413-0117
Public Contact: 312/413-1806 (V); 312/413-0453 (TTY); Fax: 312/413-1804

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; FY 08 $600,000; FY 09 $0 (No-cost extension through 10/31/2010)

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 (VR) agencies 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 results 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.

Dartmouth College
Dartmouth Psychiatric Research Center
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Principal Investigator: William Lawson, MD, PhD; Rob Whitley, PhD
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Project Number: H133A080063
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Shelley Reeves
NIDRR Funding: FY 08 $354,345; FY 09 $355,566; FY 10 $349,740; FY 11 $353,228; FY 12 $355,891

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

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

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

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

Principal Investigator: Irvine E. Epps, EdD 713/313-7224
Public Contact: Marie A. Henry 713/313-7225; Fax: 713/313-7579

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; FY 08 $0 (No-cost extension through 11/30/2009); FY 09 $0 (No-cost extension through 11/30/2010)

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, with a majority research institution, Baylor College of Medicine. 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.
Empowerment: Building Research Infrastructure Capacity

Virginia Commonwealth University
Department of Rehabilitation Counseling
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Principal Investigator: Juan Carlos Arango-Lasprilla, PhD; Allen Lewis, PhD; Paul Wehman, PhD
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Project Number: H133A080060
Start Date: October 01, 2008
Length: 60 months
NIDRR Officer: Pimjai Sudsawad, ScD
NIDRR Funding: FY 08 $356,550; FY 09 $356,373; FY 10 $356,373; FY 11 $356,614; FY 12 $356,593

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

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Project Number: H133F100025
Start Date: October 01, 2010
Length: 12 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 10 $75,000

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

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Abstract: This project uses a comparative legal research method, combined with a disability studies approach, to identify the barriers to inclusion of students with disabilities in higher education and the strategies that have been developed to eliminate such barriers in the United States and Israel. The US has adopted a legal approach to mandate access to higher education and inclusion of students with disabilities in higher education; whereas Israel appears to have eschewed a legislative mandate, in favor of a social welfare model of economic incentives and social supports. This research project explores the relative strengths and weaknesses of these different approaches. Comparative legal research methodologies are employed to analyze international and domestic laws and regulations in Israel and the United States. This analysis is followed by a review of research that has been conducted in Israel and the United States on access to higher education for students with disabilities, including students from minority communities, and students with intellectual disabilities. Contemporary disabilities studies methods are employed when exploring a new vision of inclusion and acceptance of students with disabilities that no longer views disability accommodations as afterthoughts; but instead, seeks to include all students, with and without disabilities, as full participants in the academic communities of higher education. This new vision includes a discussion of the application of universal design principles to higher education. Project outcomes include policy recommendations regarding changes in the laws and/or practices in the US and Israel to enhance the opportunities of students with disabilities in higher education.
Evaluation of a Training Program to Enhance Clinical Supervision of State Vocational Rehabilitation Supervisors

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Project Number: H133F100003
Start Date: October 01, 2010
Length: 12 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 10 $75,000

Abstract: This project develops, implements, and evaluates a training program specifically designed for practicing state vocational rehabilitation (SVR) supervisors from Pennsylvania, the target population of interest, to improve their clinical supervision competence (i.e., knowledge, self-efficacy, supervisory working alliance and skills). The project goals include: (1) Developing a best-practices training intervention based on earlier research by Herbert and Herbert and Trusty; (2) evaluating the comprehensiveness and effectiveness of the training intervention with input from the Research Advisory Board (current and recently retired SVR supervisors); (3) implementing the training program for SVR supervisors in Pennsylvania; (4) evaluating the effectiveness of the training program from both supervisor and counselor perspectives; and (5) disseminating findings. This project uses a strategy of hybrid learning that includes an initial three-day, on-site (synchronous) training program followed up with 12 bi-weekly contact training sessions (synchronous and asynchronous, 90 minutes each session). The research methodology uses a multilevel analysis with repeated measures to examine the effectiveness of a training program to increase supervisory knowledge, self-efficacy, supervisory working alliance, and helpful supervisory behavior. Using a mixed-methods approach to evaluate program effectiveness, the investigator examines changes pertaining to clinical supervision competence (knowledge, skills, self-efficacy, supervisory working alliance) from both supervisor and counselor perspectives.
Meta-Analysis of Self-Instructional Factors and Outcomes for Youth and Young Adults with Intellectual Disabilities: A Synthesis of Research

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Project Number: H133F100005
Start Date: October 01, 2010
Length: 12 months
NIDRR Officer: Dawn Carlson, PhD, MPH
NIDRR Funding: FY 10 $75,000

Abstract: This project studies existing research on the effects of self-instructional strategies on employment. Existing reviews of the literature employ a traditional discursive approach, which results in interpretation errors based on the investigator’s prior training and the purpose of the investigation. To avoid these types of errors this research project proposes a quantitative review of existing literature utilizing meta-analytic procedures related to self instruction. Project outcomes focus on the importance of utilizing different exemplars when teaching self-instructional strategies, and the characteristics of those exemplars resulting in the ability to self-instruct and generalizing the use of the self-instructional strategy to new tasks, settings, and situations. Study results expand knowledge and understanding on the effects of using self-instructional strategies in novel settings and situations as well as applied to new tasks and contexts and by different instructors with a focus on individuals with intellectual disabilities.
Consequences of Wheelchair Tie-Down and Occupant Restraint System Practices on Wheelchair Passenger Safety in Fixed-Route Transit

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Project Number: H133F100032
Start Date: October 01, 2010
Length: 12 months
NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 10 $65,000

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

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Project Number: H133F090031
Start Date: January 01, 2010
Length: 12 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 09 $65,000

Abstract: The aim of current Cochlear Implant (CI) research is to narrow down the search for CI fitting parameters which hold the greatest potential to improve an individual CI user’s speech understanding in noise by using a computational model of speech understanding. This project has two research objectives: (1) develop and test a model of CI users’ speech understanding in noise, and (2) assess model predictions of patient-specific CI device settings that hold greatest potential for improving speech understanding in noise. The first research objective involves modifying a pre-existing computational model of speech understanding by CI users in quiet to account for their speech understanding in noisy listening conditions. Twelve postlingually deafened adult CI users are tested for speech understanding in quiet and noise. The pre-existing model is applied to the data in quiet, and the proposed modifications are tested on the data in noise. The second research objective uses the model developed in the first objective to make predictions on speech understanding in noise, specific to each individual, as a function of up to 625 CI device setting manipulations. The four device settings that hold the greatest potential for improving speech understanding in noise are assessed on eight of the CI users that participated in the first research objective using speech testing in noise. The results are compared to each listener’s speech understanding in noise achieved with their clinically assigned device settings.
Evaluating a Novel Intervention to Reduce Instability in Patients with Stroke

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Project Number: H133F100010
Start Date: October 01, 2010
Length: 12 months
NIDRR Officer: William V. Schutz, PhD, MSW, MPH
NIDRR Funding: FY 10 $65,000

Abstract: This project promotes effective balance behaviors of individuals who have had a stroke and determines if an intervention augmenting lower limb somatosensory signals through vibration of the feet effectively increases their segmental degrees of freedom and reduces their sensitivity to disorienting visual motion. Two components to this project include: (1) instituting a training paradigm that gradually increases the postural demands with a progressively unstable base of support, thus providing augmented feedback under their feet to enhance attention to feedback about changes in position of the base of support; (2) testing whether repeated experience with this augmented feedback carries over to compensatory balance responses when standing posture is perturbed within a dynamic visual environment immediately after and two weeks after the training period.
A Synergy-Based Brain Computer Interface to Reanimate Paralyzed Hands

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Project Number: H133F100001
Start Date: October 01, 2010
Length: 12 months
NIDRR Officer: Margaret Campbell, PhD
NIDRR Funding: FY 10 $63,072

Abstract: This project uses a synergy-based approach with brain computer interface (BCI) technology to assist individuals with tetraplegia in regaining arm and hand function by improving upon sophisticated functional electrical stimulation (FES) systems (e.g. Freehand). Synergy refers to the coordinated motion of two or more degrees of freedom (DoF) that are present in all types of normal motor behaviors including hand, arm, leg, and whole body movements. The benefit of synergy-based BCI is that by controlling a limited number (2 to 3) of synergies (temporal profiles of multiple joints) using brain signals, movements at multiple joints can be controlled simultaneously and intuitively. Ten participants with epilepsy undergo temporary implantation of electrocorticographic (ECoG) electrodes on the surface of the cortex, for seizure monitoring within a one-year period. The signals from these electrodes are fed to a BCI, thus providing a unique opportunity to access cortical signals. This project examines the association between neural signals recorded in the brain using ECoG and the hand synergies derived from various hand manipulation tasks. The primary goal of this project is to develop a BCI that provides accurate and reliable control signals for hand grasp that can be applied to control FES systems like the ‘Freehand’ systems and ultimately provide more DoF for controlling assistive devices such as FES to restore movement in paralyzed hands.
Advanced Rehabilitation Research Training Projects
District of Columbia

Advanced Rehabilitation Research Training in Neurorehabilitation

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

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

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

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Project Number: H133P060003
Start Date: September 01, 2006
Length: 60 months
NIDRR Officer: Leslie J. Caplan, PhD
NIDRR Funding: FY 06 $150,000; FY 07 $150,000; FY 08 $150,000; FY 09 $150,000; FY 10 $150,000

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

Advanced Rehabilitation Research Training Project in Rehabilitation Services Research

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

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

University of Maryland Advanced Neuromotor Rehabilitation Research Training (UMANRRT)

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

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

Advanced Research Training Program in Psychiatric Rehabilitation

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

Abstract: This project conducts two consecutive cycles of 2.25 year postdoctoral fellowship in psychiatric rehabilitation research, offered to six fellows over the course of the project. The recruitment efforts target consumers, with the expectation of selecting one or more consumers. In order to optimize the training experience, three fellows are in residence during each cycle. While the fellowship is designed to provide a broad-based intensive training in psychiatric rehabilitation research, the six fellows develop a particular expertise in conducting recovery-oriented research given the current research profile of the Center for Psychiatric Rehabilitation at Boston University. Through a variety of training modalities, fellows acquire competencies in the following areas: psychiatric rehabilitation and recovery framework, consumer advocacy and self-help, research design/methodology, statistics, computer literacy, conduct of applied rehabilitation research, and grant and professional writing. The goals of this project are to: recruit six individuals with doctoral-level clinical training who are committed to pursuing 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.
The UMHS/AACIL Rehabilitation Research Training Program

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

Abstract: This training program aims to train a team of interdisciplinary researchers to produce new knowledge in rehabilitation research and advances evidence-based practice thus improving the lives of persons with disabilities. This program grew out of a long-term collaboration between the University of Michigan and the Ann Arbor Center for Independent Living (AACIL) and builds upon the successful structures and experiences developed during the previous grant cycles funded by the National Institute on Disability and Rehabilitation Research (NIDRR) between 1993 and 2008. Emphasizing the consumer-scientist-practitioner model, this multidisciplinary research training program trains six new Ph.D. fellows and ten M.D. Resident Physicians. Training opportunities include participation in existing research programs funded by NIDRR, National Institutes of Health, Paralyzed Veterans of America, and at the University of Michigan as well as opportunities for conducting research in conjunction with our community partner, the AACIL. A variety of didactic and practical experiences make up this research training program. These include participation in academic courses available at the University of Michigan, research seminars, presentations and lectures at meetings and national conferences, and an opportunity to work collaboratively on research projects being conducted at many sites. Fellows and trainees may select from a focus on three content areas: (1) community participation, including social and environmental factors effecting independent living; (2) health and function; and (3) assistive technologies. Cross cutting themes covered in all content areas include health disparities and community needs of underserved populations with disabilities, women’s health, and aging with disability. Special efforts are made to recruit and train researchers from racial and ethnic minority backgrounds as well as individuals with disabilities. Through this research training experience, fellows and resident trainees acquire and enhance specific research skills; learn how to collaborate effectively across important rehabilitation areas and disciplines; and demonstrate a capacity to apply the results of research to the problems of persons with disabilities. The objectives of this research training are: (1) to provide training to qualified individuals within a multidisciplinary perspective to evaluate research quality and to produce excellence; (2) to orient training toward advancement of science and addressing the needs of persons with disabilities through development of evidence-based practice and community-based participa-
tory research; (3) to prepare researchers to conduct studies in new settings, including home, schools, and community-based organizations; (4) to foster research skills resulting in successful research proposals addressing issues relevant to persons with disabilities; and (5) to promote productive partnerships and collaborations that lead to successful careers in areas with a shortage of qualified researchers.
Health Activity Rehabilitation Research Training Center (HARRTC)

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Project Number: H133P050005
Start Date: September 01, 2005
Length: 60 months
NIDRR Officer: Doris Werwie, PhD
NIDRR Funding: FY 05 $150,000; FY 06 $150,000; FY 07 $150,000; FY 08 $150,000; FY 09 $150,000; FY 10 $0 (No-cost extension through 08/31/2011)

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 Psychiatric Rehabilitation Research on Employment and Community Integration

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Project Number: H133P050006
Start Date: September 01, 2005
Length: 60 months
NIDRR Officer: Bonnie Gracer
NIDRR Funding: FY 05 $149,999; FY 06 $149,999; FY 07 $150,000; FY 08 $150,000; FY 09 $150,000; FY 10 $0 (No-cost extension through 08/31/2011)

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, interventions designed to promote community integration through case management, and 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 Center on Neuro-musculoskeletal Rehabilitation

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

Abstract: This post-doctoral research interdisciplinary training program on neuro-musculoskeletal rehabilitation provides postdoctoral research opportunities to qualified individuals interested in research, and academic careers related to rehabilitation research. Over the course of the program, nine postdoctoral fellows plan, conduct, and disseminate research, and may choose to conduct research in neuro-musculoskeletal rehabilitation. Each 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 Jersey

Advanced Rehabilitation Research Training Center on Neurocognitive Rehabilitation

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Principal Investigator: Nancy D. Chiaravalloti, PhD 973/530-3640
Public Contact: 973/530-3600; Fax: 973/736-7886

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

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

Mount Sinai School of Medicine
Department of Rehabilitation Medicine
One Gustave L. Levy Place, Box 1240
New York, NY 10029
theodore.tsaousides@mountsinai.org
www.mssm.edu/tbinet

Principal Investigator: Theodore Tsaousides, PhD
Public Contact: 212/241-6547; 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; FY 08 $149,999; FY 09 $149,999; FY 10 $0 (No-cost extension through 09/30/2011).

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 expand 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 evidence-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.
Mt. Sinai Advanced Rehabilitation Research Training

Mount Sinai School of Medicine
Department of Rehabilitation Medicine
One Gustave L. Levy Place, Box 1240
New York, NY 10029
theodore.tsaousides@mssm.edu
www.mssm.edu/tbinet

Principal Investigator: Theodore Tsaousides, PhD
Public Contact: 212/241-6547; Fax: 212/348-5901

Project Number: H133P100016
Start Date: October 01, 2010
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 10 $142,046; FY 11 $138,302; FY 12 $142,646; FY 13 $147,163; FY 14 $149,970

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

Syracuse University
School of Education
259 Huntington Hall
Syracuse, NY 13244
jlbellin@syr.edu

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; FY 08 $149,994; FY 09 $149,969; FY 10 $149,914; FY 11 $149,960

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

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

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

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

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

Advanced Rehabilitation Research Training

Baylor College of Medicine
Department of Physical Medicine and Rehabilitation
One Baylor Plaza, Room 600d
Houston, TX 77030

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

Project Number: H133P080007
Start Date: July 01, 2008
Length: 60 months
NIDRR Officer: Kenneth D. Wood, PhD
NIDRR Funding: FY 08 $150,000; FY 09 $150,000; FY 10 $150,000; FY 11 $150,000; FY 12 $150,000

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

Advanced Research Training Program in Neurobehavioral Recovery and Intervention

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

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

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

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

University of Washington Advanced Rehabilitation Research Training

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

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

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

Abstract: The primary goal of the University of Washington ARRT program is to increase the number of successful, independent rehabilitation researchers who not only understand their own area of focus, but also have a working knowledge of other related Rehabilitation science fields and have experience in interacting with experts who are knowledgeable in these other areas. To that end, UW-ARRT provides advanced rehabilitation research training for five to six highly qualified postdoctoral trainees to enable them to become successful rehabilitation researchers, and to conduct formative and summative evaluation of the training. UW-ARRT focuses on development of rehabilitation researchers with emphasis on design and implementation of rehabilitation research, dissemination of research, and grant writing. The comprehensive training provides: (1) immersion in a mentored rehabilitation research experience by matching postdoctoral trainees with highly successful rehabilitation researchers, and (2) complementary didactics (core and individualized) to support trainees’ development as rehabilitation researchers. Core curriculum is built on an on-going bimonthly seminar specifically designed to: (1) teach and enhance the critical skills necessary for a successful research career (a general research skills seminar to be held once/month), and (2) provide for interaction among trainees interested in developing successful research careers in Rehabilitation sciences and an interdisciplinary cohort of mentors/advisors who have active and successful Rehabilitation sciences research programs. The individualized didactic curriculum allows a postdoctoral trainee to enroll, as needed, in additional coursework in research methods, statistical analysis, and rehabilitation science.
Advanced Rehabilitation Research Training Projects
Wisconsin

Advanced Rehabilitation Research Training in Pediatric Mobility

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

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

Project Number: H133P080005
Start Date: September 01, 2008
Length: 60 months
NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 08 $150,000; FY 09 $150,000; FY 10 $150,000; FY 11 $150,000; FY 12 $150,000

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

Advanced Rehabilitation Research Training (ARRT) in Pediatric to Adult Transition

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

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

Project Number: H133P100008
Start Date: October 01, 2010
Length: 60 months

NIDRR Officer: Thomas Corfman
NIDRR Funding: FY 10 $150,000; FY 11 $150,000; FY 12 $150,000; FY 13 $150,000; FY 14 $150,000

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

For assistance in searching the Program Directory database, contact the staff at NARIC at 800/346-2742 or email jchaiken@heitechservices.com
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Jill Slaboda, PhD  H133F100010  Philadelphia, PA  8-18
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