National Institute on Disability and Rehabilitation Research

Knowledge Translation Planning Panel

Background Information
for the June 9-10, 2005 Panel Meeting

May 11, 2005

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Section 1. Introduction

This background paper is designed for the knowledge translation planning panel to understand NIDRR goals regarding knowledge translation, what dissemination activities NIDRR is currently conducting, the mechanisms through which those activities are conducted, and what NIDRR sees as future challenges in developing its knowledge translation plans.

Section 2 is an orientation to NIDRR.

Section 3 describes the current status of knowledge dissemination at NIDRR.

Section 4 contains links to the new funding opportunities in knowledge translation just announced by NIDRR.

Section 5 describes the planning now in progress at NIDRR to determine the future of knowledge translation, including an overview of the proposed Long Range Plan and the NIDRR logic model.

Section 6 describes the current activities in the field of knowledge translation which may help guide NIDRR's efforts.

Section 7 contains a sample of research products submitted by NIDRR grantees to the National Rehabilitation Information Center (NARIC) from October to December 2004. The table is designed to show panel members typical products developed by NIDRR grantees, analyzed by Level of Evidence, Dissemination Method, NIDRR Long-Range Plan Area and Project Type. It presents what one might find if one were to apply existing evidence grading to products of current NIDRR research projects.

Purpose of the Planning Panel

NIDRR is planning to advance its knowledge translation activities by emphasizing expert judgments on the value of information for further dissemination, better accountability for outputs produced by NIDRR researchers, and improved methods for making this information available beyond the research community. NIDRR is asking the expert panel to provide guidance on the scope and direction of NIDRR's future activities in knowledge translation. The main questions for the panel are:

1. What standards (such as restrictions to specific methods) should determine which research results are suitable for dissemination?

    a. What are the appropriate standards to use for research funded by NIDRR on theories, measures, and methods?

    b. What are the appropriate standards to use for new and improved products, environmental adaptations, interventions, and programs developed by NIDRR grantees?

2. How should NIDRR direct its funds in order to ensure that new knowledge will improve the lives of people with disabilities in the domains of employment, home and community, health and function, and technology?

   a. What activities or programs are appropriate to ensure that research on theories, measures, and methods reaches the primary audiences of researchers and practitioners?

   b. What activities or programs are appropriate to ensure that research on new and improved products, environmental adaptations, interventions, and programs reaches the primary audience of people with disabilities?

   c. What new knowledge management and information technology would help expedite NIDRR's dissemination mandate?

3. How can NIDRR structure its knowledge translation activities to implement appropriate standards and validation methods?

   a. Should NIDRR fund separate knowledge translation projects, assist NIDRR grantees in using existing clearinghouses, or adopt a combination of approaches?

   b. What opportunities exist for NIDRR to coordinate with ongoing KT activities?

At the conclusion of the meeting, NIDRR would like the panel to:

- Identify external processes and external standards that are appropriate for NIDRR research.

- Suggest how to structure future KT activities to maximize the impact of research findings in the domains of employment, home and community, health and function, and technology.

- Identify trends in knowledge management and information technology that will help expedite the dissemination mandate in the Rehabilitation Act.

- Suggest how to achieve a balance among research on KT, technical assistance to grantees, and translation activities.

- Identify opportunities for NIDRR to coordinate with ongoing KT activities.

- Identify appropriate technical assistance efforts.

Tentative Agenda

Renaissance Washington, DC Hotel
999 Ninth Street NW
Washington, DC 20001
202-898-9000

Thursday, June 9, 2005

8:30-9:00   Continental Breakfast

9:00-9:10   Welcome and Introduction – Steven Tingus, NIDRR Director

9:10-9:30   Overview of Panel Process – Joel Myklebust, NIDRR Acting Deputy Director

9:30-12:00 Standards and Validation Methods
            15 minute introduction by NIDRR: constraints and directives under which NIDRR operates KT
            activities.
            Panel Chair, Steve Leff, will lead discussion to generate answers to questions
            ▪ What are the appropriate standards to use for research funded by NIDRR on theories,
              measures, and methods?
            ▪ What are the appropriate standards to use for new and improved products, environmental
              adaptations, interventions, and programs developed by NIDRR grantees?

12:00-1:00 Lunch

1:00-2:00   Continue discussion of standards and validations methods, if needed.

2:00-4:30   Program Structure and Design Questions
            Panel Chair, Steve Leff, will lead discussion to generate answers to questions
            ▪ How can NIDRR structure its KT activities to implement appropriate standards and
              validation methods?
            ▪ What activities or programs are appropriate to ensure research on theories, measures, and
              methods reaches the primary audiences of researchers and practitioners?
            ▪ What activities or programs are appropriate to ensure research on new and improved
              products and environmental adaptations reaches the primary audience of people with
              disabilities?
            ▪ What new knowledge management and information technology would help expedite the
              dissemination mandate in the Rehabilitation Act?

4:30-5:00   Review of today's session and plan for tomorrow.

Friday, June 10, 2005

8:30-9:00   Continental Breakfast

9:00-11:00   Working Session: develop recommendations and rationale.

11:00-12:00   Presentation and discussion of draft recommendations with NIDRR staff

12:00   Adjourn

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Panel Member Biographical Information

Linda Bilheimer, Ph.D., is a Senior Program Officer at The Robert Wood Johnson Foundation, where she is the leader of the Coverage team, directs the Foundation's research synthesis project, and works on a wide range of health policy research and evaluation issues. She focuses, in particular, on initiatives for expanding health insurance coverage, microsimulation modeling of health insurance reform proposals, measurement issues in estimating health insurance status, and research translation for policymakers. Before joining the foundation, Dr. Bilheimer was the Deputy Assistant Director for Health at the Congressional Budget Office. Previously she was a senior researcher at Mathematica Policy Research and the Director of Health Statistics and Epidemiology at the Arkansas Department of Health. She holds a Ph.D. in Economics from Harvard University. In June 2005, Dr. Bilheimer will be joining the staff of the National Center for Health Statistics as Associate Director for Analysis and Epidemiology.

Marisa C. Brown, MSN, RN, is a research instructor in the Department of Pediatrics, Georgetown University Medical Center in Washington, D.C., and the director of the Nursing Division of the Georgetown University Center for Child and Human Development, University Center for Excellence in Developmental Disabilities (UCDD). She has been associated with Georgetown University for the past 22 years serving in many capacities. She is an advanced nurse practitioner specializing in the health care of individuals with developmental disabilities, and has over 20 years of experience in the field. She is the project director for the Bureau of Primary Health Care (BPHC) project of the National Center for Cultural Competence (NCCC). The mission of the NCCC is to increase the capacity of health care and mental health programs to design, implement and evaluate culturally and linguistically competent service delivery systems. She is the coordinator for information and dissemination activities related to the University Center for Excellence in Developmental Disabilities (UCEDD) funded by the Administration on Developmental Disabilities. As the Nursing Division Director of the UCEDD, she coordinates several community-based projects that provide home visiting services to families that are homeless and other families impacted by poverty, disability and substance abuse. Ms. Brown also has teaching responsibilities within the UCEDD. As part of her responsibilities for the UCEDD, Ms. Brown serves on the Multicultural Council of the Association of University Centers on Disabilities (AUCD). She has assisted in developing and implementing workshops for the AUCD annual meeting, and has advocated for issues related to cultural and linguistic competence. Ms. Brown has served on numerous task forces and advisory groups at the local and state level related to children and adults with developmental disabilities. As the parent of a young adult with Asperger's Syndrome, she is particularly interested in advocacy for individuals with emotional and behavioral disorders. She serves on several community-based committees and is a member of the Human Rights Committee of the D.C. Mental Retardation and Developmental Disabilities Administration, and the D.C. Arc.

Kenneth S. Fink, M.D., MGA, MPH, graduated from Haverford College before attending the University of Pennsylvania where he received the degrees of Doctor of Medicine and Master of Governmental Administration. After completing a residency in family medicine at the University of Washington, he went to the University of North Carolina at Chapel Hill where he participated in the Robert Wood Johnson Clinical Scholars Program, received a Master of Public Health, and completed a residency in preventive medicine. He is board certified in both family medicine and preventive medicine, and he is a Fellow of the American Academy of Family Physicians. Kenny's main interest is using evidence to inform practice and policy that improves the effectiveness of healthcare. While a Kerr White Visiting Scholar at the Agency for Healthcare Research and Quality (AHRQ) he became the program director for the US Preventive Services Task Force and the Agency's lead on prevention. He currently directs the Evidence-based Practice Centers program at AHRQ.

Tanya M. Gallagher, Ph.D., is Principal Investigator and Director of the Disability Research Institute, and Dean of the College of Applied Life Studies at the University of Illinois at Urbana-Champaign. As a Professor of Speech and Hearing Science, Dr. Gallagher has served on the faculties of the University of Michigan and McGill University prior to coming to UIUC. She has held several leadership positions including Director of the School of Communication Sciences and Disorders, Associate Dean for Allied Health Sciences, and Associate Dean for University Affairs, Planning and Resources in the Faculty of Medicine at McGill University. Her research has recently focused on brain-behavior relationships in populations at high risk for communication disorders and head and neck post-treatment effects following treatments for oral-pharyngeal cancer. Dr. Gallagher is currently the President of the American Speech-Language-Hearing Foundation having served her professional association as its Vice-President for Research and Technology, Chair of the Publications Board and Council of Editors, and Editor of the Journal of Speech-Language and Hearing Research. She is also an advisor to the National Center for Treatment Effectiveness in Communication Disorders and has been Co-Project Officer of the National Treatment Outcomes in Speech-Language Pathology and Audiology Project. Dr. Gallagher, an alumnae of the University of Illinois, earned her bachelor's degree in speech-language pathology (1967), master's degree in speech-language pathology (1969) and doctorate in speech and language science (1971) at UIUC.

H. Stephen Leff, Ph.D., is a Senior Vice President at the Human Services Research Institute and an Assistant Professor of Psychology at the Harvard Medical School. His work has focused on mental health systems evaluation and planning. Currently, Dr. Leff is Principal Investigator and Director of The Evaluation Center@HSRI, a program funded by the Center for Mental Health Services to provide technical assistance nationally for the evaluation of adult mental health systems change. Dr. Leff's interests include evidence-based practices, the measurement of cultural competency, fidelity measurement, and linking evaluation and planning activities. Currently, he is developing a consumer survey on the cultural acceptability of treatment. He is also working on criteria for assessing the evidence for mental health interventions for inclusion in a National Registry of Evidence-based Programs and Practices being developed by the Substance Abuse and Mental Health Services Administration. Dr. Leff also conducts computer-implemented needs assessment, resource allocation, and planning activities for state and local mental health agencies. Dr. Leff has been the Principal Investigator for several SAMHSA multi-site projects and research grants funded by the National Institute of Mental Health. He has authored a number of published articles and technical reports. Dr. Leff has also served as a reviewer of research grant proposals and state mental health plans for NIMH and CMHS. Dr. Leff is a licensed clinical psychologist and was formerly Assistant Commissioner of Information Systems, Evaluation and Planning in the Massachusetts Department of Mental Health. Dr. Leff was elected to full membership in the Harvard-Radcliff Chapter of Sigma Xi. He was Associate Editor for adult mental health for the journal Mental Health Services Research.

Maurice McInerney, Ph.D. is a Managing Director at the American Institutes for Research and is a recognized expert in disability policies, knowledge transfer paradigms, and translating research into improved practices for persons with disabilities and their families. He has successfully managed over 50 research, training, and technical assistance projects. Dr. McInerney currently serves as PI of AIR's study of pre-service training programs for RSA, Co-PI of the National Center for Student Progress Monitoring for OSEP, Co-PD of AIR's technical support task order contract with OSEP, and PD of the US-Brazil NGO Partnership Project for the U.S. Bureau of Educational and Cultural Affairs (STATE). He has consulted on disability policy and practice issues with the Academia Brasileira de Ciências (Brazilian Academy of Science) since 2001. Dr. McInerney was formerly a Mary E. Switzer National Research Fellow (NIDRR, ED) and is currently a Fulbright Senior Specialist (U.S. Department of State and Brazilian National Research Council).

Ralf Schlosser, Ph.D., is currently an Associate Professor in the Department of Speech-Language Pathology and Audiology at Northeastern University in Boston. He has published extensively in the field of augmentative and alternative communication with an emphasis on intervention research, efficacy, research synthesis, and evidence-based practice. Recently, he has published a monograph entitled: *The efficacy of augmentative and alternative communication: Towards evidence-based practice.* His doctorate is in Special Education from Purdue University.

Liz Stirling, M.S., is a Knowledge Translation Specialist with the Knowledge Translation Branch in the Canadian Institutes of Health Research (CIHR) where she develops funding opportunities in knowledge translation, oversees the CIHR Health Research Communications Award and works on a variety of CIHR new initiatives. She is trained as an occupational therapist and also holds a Masters in Health Science (Health Administration), both from the University of Toronto (1980 and 1984 respectively). She worked in spinal cord, stroke and pediatric rehabilitation programs before completing her graduate degree. Ms. Stirling was the Legislative Assistant and Policy Advisor to the Ontario Minister of Health from 1985-1988. Several years working as a government relations and communications consultant for Hill and Knowlton have provided insights into a wide range of private and public sector organizations including hospitals, non-governmental organizations and pharmaceutical companies. From 1990 -1992, Ms. Stirling worked for Kaiser Permanente in the Northern California Region in Program Development. Since 1992 she has lived in Ottawa, working previously for one of Canada's largest teaching and research hospitals. In 2004 Ms. Stirling worked on a secondment basis for the Canadian Health Services Research Foundation.

Thomas E. Stripling has served as Paralyzed Veterans of America's Director of Research, Education and Practice Guidelines program since 2001. This program includes management of PVA's Spinal Cord Research Foundation, PVA's Spinal Cord Injury Education and Training Foundation and the Consortium for Spinal Cord Medicine for Clinical Practice Guidelines. The foundations are both 501(C)(3) not-for-profit corporations awarding 1 or 2 year projects in either research or education dedicated to spinal cord injury or disease. The Consortium represents 20 medical, nursing, therapeutic and advocacy organizations focused spinal cord injury that publishes evidence-based clinical practice guidelines. Mr. Stripling joined PVA in 1981 as a health policy researcher. He has conducted and/or managed studies for PVA on the economic consequences of SCI and multiple sclerosis, membership needs & services, bladder cancer, sports & recreation, and various health services questions ranging from managed care to assisted living to psycho-demographic statistics. Mr. Stripling graduated from Providence College in 1972 with a bachelor's degree in sociology. Prior to joining PVA, he was involved in the developmental disabilities field as a program manager, researcher, community liaison and advocate.

Pimjai Sudsawad, Sc.D, OTR, is an Assistant Professor in the Occupational Therapy Program at the University of Wisconsin-Madison. Dr. Sudsawad practiced occupational therapy for 14 years before transitioning to academia. Dr. Sudsawad's area of focus is research utilization in evidence-based practice by rehabilitation practitioners. Her research under the Mary E. Switzer Fellowship from NIDRR investigated ways that outcome research could be designed, implemented, and reported in a manner that is maximally usable for clinical practice. The proposed model included the incorporation of social validity, ecological validity, and clinical significance concepts into the design of pediatric intervention studies to create desirable characteristics that will make research information more usable for practice, based the Diffusion of Innovations conceptual framework. Dr. Sudsawad was a recipient of a pre-doctoral training grant (T32) from the National Center for Medical Rehabilitation Research, National Institute of Child Health and Human Development, National Institutes of Health. She also received and directed a competitive internal research grant from Sargent College of Health and Rehabilitation in support of her dissertation research. Dr. Sudsawad received the Ann Henderson Doctoral Scholarship Award in recognition of excellence in scholarship and research from the Department of Occupational Therapy, Sargent College of Health and Rehabilitation Sciences, Boston University. While a faculty member, Dr.

Sudsawad received 3 additional research grants including the Mary E. Switzer Fellowship from NIDRR. Dr. Sudsawad is currently a member of the Clinical Practice Committee of the American Congress of Rehabilitation Medicine. Since January 2002, she has served as an Editorial board member of the *American Journal of Occupational Therapy.* Dr. Sudsawad received a Bachelor's degree in Occupational Therapy from Chiangmai University, Thailand; a Master's degree in Occupational Therapy from the State University of New York at Buffalo; and a Doctoral degree in Therapeutic Studies from Boston University.

NIDRR Staff Biographical Information

Steven James Tingus, M.S., C.Phil., is Director of NIDRR. As director, he serves as chief advisor to the Assistant Secretary for Special Education and Rehabilitative Services, U.S. Department of Education, and directs research programs and activities related to maximizing employment and independent living opportunities for disabled individuals of all ages. Prior to joining the Department of Education, Tingus served as director of resource development and public policy director for assistive technology at the California Foundation for Independent Living Centers. In that capacity, he developed and implemented model policies and activities to broaden access to assistive technology for persons with disabilities to help them live independent and productive lives. From 1995-1998, he served as health care policy analyst in the Office of Long Term Care at the California Department of Health Services. Tingus earned his master of science degree in physiology from the University of California, Davis in 1990 and has done work toward his doctoral degree in physiology.

Richard P. Melia, Ph.D., is Director of the Division of Research Sciences at NIDRR. Dick has worked for the Federal government on disability and rehabilitation research, training, and policy for more than 30 years. Originally from Boston, MA, he earned his BA in political science from Northeastern University and his MA and Ph.D. degrees from University of Massachusetts, Amherst with an emphasis in public administration and public health. The National Rehabilitation Association in 1984 named Dick a Mary E. Switzer Scholar. He has helped shape numerous interdisciplinary, interagency, international, and intergovernmental activities and research initiatives addressing rehabilitation, independent living, and disability policy.

Ellen Liberti Blasiotti is the Manager of the Knowledge Dissemination and Utilization (soon to be called Knowledge Translation) Program at NIDRR. She is a national expert in information dissemination and utilization, and is published in *Knowledge: Creation, Diffusion, Utilization* (Sage), the *Handbook on Disability Studies* (Sage), and various newsletters and conference proceedings. She has been a conference speaker on knowledge dissemination and utilization, the work of NIDRR, research resources, fellowships, addressing the disability media, customer service standards, and personal value conflict in foreign policy decision-making.   She has 36 years of experience in foreign affairs, public diplomacy, rehabilitation research, research information dissemination and utilization, and public affairs. Ms. Blasiotti served as the Director of the Mary E. Switzer Fellowship Program for eight years and she has been affiliated with the program for 21years. She has directed the public affairs office of the Assistant Secretary of OSERS and NIDRR's knowledge dissemination division and team, and has served as the Director of NIDRR's International Program. She was the Special Assistant to the first Director of NIHR, Margaret J. Giannini, M.D. As a NIDRR Program Officer and Contracting Officer's Representative, she has directed the work of national information clearinghouses, a "best practices" network, rural rehabilitation research programs, independent living programs, a rehabilitation research library, information services, national and international database projects; media outreach projects, and technical assistance projects. She has served as a speechwriter and ghostwriter for figures of national prominence. She has served as a delegate to US-Japan Common Agenda conference and has been a NIDRR Fellow to India. Ms. Blasiotti is the winner of a prestigious "Hammer Award" from the Vice-President's National Performance Review and the Deputy Secretary's Reinvention Award. Prior to her service in helping to establish the NIHR (now NIDRR), Ms. Blasiotti served as a foreign affairs officer and public affairs officer at the United States Information Agency and the U.S. Department of State's Office of Public Affairs and Bureau of Educational and Cultural Affairs. She holds a Bachelor of Arts degree from Mary Washington College of the University of Virginia (now Mary Washington University) and a Master of Arts in Liberal Studies degree from Georgetown University.

Eva M. Gavillan, Ed.D., is a Program Specialist at NIDRR. She has experience in planning, data analysis, training activities for staff in the application of new web reporting tools, and general management duties related to the Planning, Budget and Evaluation unit of NIDRR. She has implemented the Tools Collection**,** a project that identifies instruments developed by NIDRR grantees to improve dissemination of their results. She has led the Internal Knowledge Management Initiative and has worked on developing a new web-based reporting system and identifying appropriate information mechanisms and collaboration tools. She is currently examining evidence-based methods to determine the best models for communicating information to NIDRR's diverse audiences. She has represented NIDRR in international events related to the Mexican Bi-national Agreement, International Education Week and other major organizations meetings related to inclusion of persons with disabilities. Her background includes work in the public and private sectors on total quality management and organizational development. Her international experience includes serving as a management consultant in Europe, the Caribbean, Central and South America. She has been a Fulbright Scholar in the Western Hemisphere and has been appointed as a Senior Specialist to the Fulbright Senior Scholars Program. She has established for Pricewaterhousecoopers team building processes and re-engineering efforts for the services of public and private agencies applying total quality management methods in state agencies and foreign ministries in the Caribbean and Central America. She has been a lecturer and presenter at professional meetings in Europe and Latin America, such as the US Embassy in Panama Round Table; The Joint Working Group on Disability in London, and the Congreso Iberoamericano de Informatica Educativa Especial in Spain, Argentina, and Peru. She has been a national fellow for the Rockefeller Foundation Social Sciences Scholars Program and the National Hispana Leadership Institute. She has directed the learning units for major international and national organizations, including the Ford Foundation Internships for Doctoral Students in Social Sciences, the Girl Scouts of the USA, National Association Headquarters Adult Development Training Center, and the American Association for the Advancement of Science (AAAS) Collaboration for Equity. She has co-developed and published reports and curricula used to conduct capacity building efforts in equity of access, such as the Equity Checklist from the AAAS. She began her career in special education in the former Bureau of Education for the Handicapped and her work in assessment of bilingual students has appeared in Bilingualism and Disability by Croom Publishers. Dr. Gavillan has a masters and doctorate in Learning Environments from Harvard Graduate School of Education and post-doctoral work from Cornell University School of Industrial and Labor Relations and the Center for Creative Leadership.

Section 2. Orientation to the National Institute on Disability and Rehabilitation Research

What NIDRR Does

NIDRR is located in the Office of Special Education and Rehabilitative Services (OSERS) within the U.S. Department of Education. OSERS has two other components: the Rehabilitation Services Administration (RSA), which administers the state-federal vocational rehabilitation program, and the Office of Special Education Programs (OSEP), which oversees the implementation of the Individuals with Disabilities Education Act (IDEA).

The NIDRR mission is to generate new knowledge and to promote its effective use to improve the abilities of people with disabilities to perform activities of their choice in the community, and 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 maximize the full inclusion, social integration, employment, and independent living of individuals of all ages with disabilities. NIDRR's focus includes research in employment; participation and community living; health and function; and technology. The legislative authority for NIDRR is the Rehabilitation Act of 1973, Title II, as amended, 29 U.S.C. 760-762. NIDRR program regulations are contained in 34 CFR 350-359.

In addition to research and development, the statute authorizes widespread dissemination of research-generated knowledge to rehabilitation service providers, people with disabilities and their families, researchers and others; promotion of technology transfer; leadership of an interagency committee to coordinate federal disability and rehabilitation research; advanced training in disability and rehabilitation research; and increased opportunities for minority institutions and for researchers with disabilities or from minority groups. NIDRR has developed extensive links to the disability and rehabilitation research community through its leadership role in chairing the Interagency Committee on Disability Research (ICDR). NIDRR has also developed partnerships with many federal agencies, research institutions and consumer organizations. In fiscal year 2004, approximately 250 projects were funded by NIDRR for a total of about $107 million.

NIDRR Funding Mechanisms

NIDRR's research is extramural, conducted through a network of individual research projects and centers of excellence. Most NIDRR grantees are universities or providers of rehabilitation or related services. NIDRR's largest funding programs are the Rehabilitation Research and Training Centers (RRTCs) and the Rehabilitation Engineering Research Centers (RERCs). NIDRR also makes awards for information dissemination and utilization centers and projects, field-initiated projects, research and development projects, advanced research training projects, Switzer fellowships, and model systems of research.

Rehabilitation Research and Training Centers (RRTC)

The RRTCs are funded for five years and conduct coordinated programs of research that will improve rehabilitation methodology and service delivery systems, alleviate or stabilize disabling conditions and promote the maximum social and economic independence of individuals with disabilities. The RRTCs also conduct training and information dissemination activities. Some disabling conditions that are currently the subject of individual centers include deafness, low vision, spinal cord injury and long-term mental illness. Other RRTCs focus on cross-disability perspectives such as aging with a disability, the management of independent living centers, or drugs and disability. The RRTCs also train rehabilitation personnel and other individuals to provide rehabilitation services and to conduct additional research. In addition, the RRTCs serve as a resource for researchers, people with disabilities, their families, service providers, and advocates by disseminating information and providing technical assistance through workshops, conferences and public education programs.

Rehabilitation Engineering Research Centers (RERC)

The RERCs are funded for five years and work at the individual level focusing on technology to lessen the effects of sensory loss, mobility impairment, chronic pain, and communications difficulties. They also work at the systems level in such areas as eliminating barriers to fully accessible transportation, communications and housing. RERCs partner with industry, product developers, and private sector entrepreneurs.

Disability and Rehabilitation Research Projects (DRRP)

The Disability and Rehabilitation Research Projects carry out one or more of NIDRR's activities: research, development, demonstration, training, dissemination, utilization, and technical assistance. Dissemination and Utilization grants are provided to help transfer research and other products to policymakers, the rehabilitation community, educators, technology developers, and person with disabilities. The topics are reflected in specific NIDRR priorities. Some examples include: model systems, the creation of a specialized dataset for the collection of clinical and scientific information, or job development and placement for agricultural workers with disabilities.

Field-Initiated Projects

Field-initiated projects are proposed by the researcher. Some topics recently funded are aging and life adjustment after spinal cord injury, assessing the impact of managed care on rehabilitation research, and a clinical evaluation of pressure relieving seat cushions for elderly stroke patients.

Advanced Rehabilitation Research Training Program

The Advanced Rehabilitation Research Training Program trains physicians, therapists, rehabilitation engineers, and other professionals in research methods and statistical analysis.

Switzer Fellowship

NIDRR administers two types of one-year Switzer fellowships. Distinguished fellowships are for individuals of doctorate or comparable academic status with seven or more years experience relevant to rehabilitation research. Merit fellowships are for persons with considerable research experience, but who do not meet the above requirements.

Small Business Innovative Research (SBIR)

Small Business Innovative Research contracts help support the production of new products, from development to market readiness.

Legislative Authority for Dissemination Activities

The legislative authority for conducting dissemination activities is contained in the Rehabilitation Act of 1973, as amended. Under 29 U.S.C. §762(b), NIDRR is responsible for:

(2) widely disseminating findings, conclusions, and recommendations, resulting from research, demonstration projects, training, and related activities (referred to in this subchapter as "covered activities") funded by the Institute, to—
(A) other Federal, State, tribal, and local public agencies;
(B) private organizations engaged in research relating to rehabilitation or providing rehabilitation services;
(C) rehabilitation practitioners; and
(D) individuals with disabilities and the individuals' representatives;

(4) widely disseminating educational materials and research results, concerning ways to maximize the full inclusion and integration into society, employment, independent living, family support, and economic and social self-sufficiency of individuals with disabilities, to—
(A) public and private entities, including—
(i) elementary and secondary schools (as defined in section 7801 of title 20; [1] and
(ii) institutions of higher education;
(B) rehabilitation practitioners;
(C) individuals with disabilities (especially such individuals who are members of minority groups or of populations that are unserved or underserved by programs under this chapter); and
(D) the individuals' representatives for the individuals described in subparagraph (C);

(5)
(A) conducting an education program to inform the public about ways of providing for the rehabilitation of individuals with disabilities, including information relating to—
(i) family care;
(ii) self-care; and
(iii) assistive technology devices and assistive technology services; and
(B) as part of the program, disseminating engineering information about assistive technology devices;

(6) conducting conferences, seminars, and workshops (including in-service training programs and programs for individuals with disabilities) concerning advances in rehabilitation research and rehabilitation technology (including advances concerning the selection and use of assistive technology devices and assistive technology services), pertinent to the full inclusion and integration into society, employment, independent living, family support, and economic and social self-sufficiency of individuals with disabilities;

(8) producing, in conjunction with the Department of Labor, the National Center for Health Statistics, the Bureau of the Census, the Health Care Financing Administration, the Social Security Administration, the Bureau of Indian Affairs, the Indian Health Service, and other Federal departments and agencies, as may be appropriate, statistical reports and studies on the employment, self-employment, telecommuting, health, income, and other demographic characteristics of individuals with disabilities, including information on individuals with disabilities who live in rural or inner-city settings, with particular attention given to underserved populations, and widely disseminating such reports and studies to rehabilitation professionals, individuals with disabilities, the individuals' representatives, and others to

assist in the planning, assessment, and evaluation of vocational and other rehabilitation services for individuals with disabilities;

(11) coordinating activities with the Attorney General regarding the provision of information, training, or technical assistance regarding the Americans with Disabilities Act of 1990 ([42](#) U.S.C. [12101](#) et seq.) to ensure consistency with the plan for technical assistance required under section 506 of such Act ([42](#) U.S.C. [12206](#)).

(c) Development and dissemination of models
(1) The Director, acting through the Institute or one or more entities funded by the Institute, shall provide for the development and dissemination of models to address consumer-driven information needs related to assistive technology devices and assistive technology services.
(2) The development and dissemination of models may include—
(A) convening groups of individuals with disabilities, family members and advocates of such individuals, commercial producers of assistive technology, and entities funded by the Institute to develop, assess, and disseminate knowledge about information needs related to assistive technology;
(B) identifying the types of information regarding assistive technology devices and assistive technology services that individuals with disabilities find especially useful;
(C) evaluating current models, and developing new models, for transmitting the information described in subparagraph (B) to consumers and to commercial producers of assistive technology; and
(D) disseminating through one or more entities funded by the Institute, the models described in subparagraph (C) and findings regarding the information described in subparagraph (B) to consumers and commercial producers of assistive technology.

The legislative authority for Rehabilitation Research and Training Centers and Rehabilitation Engineering Research Centers includes dissemination requirements:

(2)
(A) Research grants may be used for the establishment and support of **Rehabilitation Research and Training Centers**, for the purpose of providing an integrated program of research, which Centers shall—
(i) be operated in collaboration with institutions of higher education or providers of rehabilitation services or other appropriate services; and
(ii) serve as centers of national excellence and national or regional resources for providers and individuals with disabilities and the individuals' representatives.
(B) The Centers shall conduct research and training activities by—
(i) conducting coordinated and advanced programs of research in rehabilitation targeted toward the production of new knowledge that will improve rehabilitation methodology and service delivery systems, alleviate or stabilize disabling conditions, and promote maximum social and economic independence of individuals with disabilities, especially promoting the ability of the individuals to prepare for, secure, retain, regain, or advance in employment;
(ii) providing training (including graduate, pre-service, and in-service training) to assist individuals to more effectively provide rehabilitation services;
(iii) providing training (including graduate, pre-service, and in-service training) for rehabilitation research personnel and other rehabilitation personnel; and
(iv) serving as an informational and technical assistance resource to providers, individuals with disabilities, and the individuals' representatives, through conferences, workshops, public education programs, in-service training programs, and similar activities.

(3)

(A) Research grants may be used for the establishment and support of **Rehabilitation Engineering Research Centers**, . . . operated by or in collaboration with institutions of higher education or nonprofit organizations, to conduct research or demonstration activities, and training activities, regarding rehabilitation technology, including rehabilitation engineering, assistive technology devices, and assistive technology services, for the purposes of enhancing opportunities for better meeting the needs of, and addressing the barriers confronted by, individuals with disabilities in all aspects of their lives.

(B) In order to carry out the purposes set forth in subparagraph (A), such a Center shall carry out the research or demonstration activities by—

(i) developing and disseminating innovative methods of applying advanced technology, scientific achievement, and psychological and social knowledge to—

(I) solve rehabilitation problems and remove environmental barriers through planning and conducting research, including cooperative research with public or private agencies and organizations, designed to produce new scientific knowledge, and new or improved methods, equipment, and devices; and

(II) study new or emerging technologies, products, or environments, and the effectiveness and benefits of such technologies, products, or environments;

(ii) demonstrating and disseminating—

(I) innovative models for the delivery, to rural and urban areas, of cost-effective rehabilitation technology services that promote utilization of assistive technology devices; and

(II) other scientific research to assist in meeting the employment and independent living needs of individuals with significant disabilities; or

(iii) conducting research or demonstration activities that facilitate service delivery systems change by demonstrating, evaluating, documenting, and disseminating—

(I) consumer responsive and individual and family-centered innovative models for the delivery to both rural and urban areas, of innovative cost-effective rehabilitation technology services that promote utilization of rehabilitation technology; and

(II) other scientific research to assist in meeting the employment and independent living needs of, and addressing the barriers confronted by, individuals with disabilities, including individuals with significant disabilities.

Section 3. How NIDRR Currently Disseminates the Results of the Research it Funds

Moving research to practice has been addressed by NIDRR activities such as: planning for dissemination and utilization; translating research results to make them more easily understood by the consumer; making results available and accessible using technology such as databases, research libraries, and websites; developing distance learning courses; and publishing and presenting the results of research in academic settings. In addition, NIDRR has supported efforts to perform market research to determine the kinds of information people need and the formats they would like best to receive that information.

In the last decade, NIDRR has refocused and strengthened its Knowledge Dissemination and Utilization (KDU) effort in several important ways: through focusing on the end users of information, by capitalizing on technology and by creating a technical assistance resource and a network of Knowledge Dissemination and Utilization Centers (KDUCs). By refocusing on the end users of information, the KDU program has made researchers increasingly aware of the need to look beyond parochial dissemination channels to the information needs of stakeholder audiences such as people with disabilities and their families, disability organizations, policymakers and researchers in other fields. Specific KDU centers, which have focused on such topics as Independent Living, have provided an array of translated material derived from NIDRR research. The material is presented in language that can be used readily by consumers.

For more than 20 years, NIDRR has funded several research databases for individuals with disabilities. NIDRR-funded databases have focused on applied rehabilitation research and providing access to up-to-date information on assistive technology and other useful consumer information. These and other vehicles of knowledge dissemination and utilization have served as important resources for consumers, practitioners, policymakers and researchers. These databases are presented below.

ABLEDATA

Since 1980, NIDRR has funded ABLEDATA, the premier database of information on assistive technology as a national resource for assistive and rehabilitative technology product information. Through the World Wide Web, the database is searched more than 1 million times annually, in addition to telephone inquiries. It offers more than 30,000 assistive technology products from domestic and international sources, and information on more than 6,000 manufacturers, and has been cited as a model for the development of similar systems.

Databases Maintained by the National Center for the Dissemination of Disability Research (NCDDR)

Most NIDRR centers and projects now conduct information and dissemination activities. These activities have become more coordinated and integral to planning in recent years with the establishment of a national center to disseminate the results of NIDRR grantee research. NIDRR has funded the National Center for the Dissemination of Disability Research (NCDDR) for many of its knowledge translation activities. Most of the NCDDR work is done through databases and Web pages linked to other critical sources of research information.

NCDDR maintains a searchable online database, updated weekly, to provide ready access to findings and results of NIDRR grantees' research. By centralizing the information, numerous reports and data on many NIDRR grantees readily are available, thus reducing the need to search every NIDRR grantee's Web site for research outcomes. More than 1,200 resources now are entered in the Electronic Library and 250 entries are in the Spanish version, the Biblioteca Electronica.

The NCDDR Web site also contains the many papers and background information resources developed in depth over many years on various aspects of KDU and KT. Topic areas include: communities of practice; dissemination research and practice; knowledge translation; research to practice; social marketing; surveys of dissemination preferences and practices; user friendly materials; and utilization.

Databases Maintained by the National Rehabilitation Information Center (NARIC)

As the number of rehabilitation research reports began to increase rapidly by the 1970s, a feasibility study was undertaken on ways to provide library and information functions for NIDRR research. This study led to the establishment of the National Rehabilitation Information Center (NARIC), which continues to be a NIDRR-funded knowledge translation database.

NARIC collects and disseminates the outputs of research funded by NIDRR. Over 25 years, NARIC's mission has expanded to providing information services and document delivery to the disability and rehabilitation communities. NARIC also offers document delivery, customized database searches, and REHABDATA Connection, a monthly alert service. The NARIC databases are:

REHABDATA contains approximately 70,000 abstracts of books, reports, articles, and audiovisual materials relating to disability and rehabilitation research. Each abstract includes bibliographic information, a 250-word abstract, and, when appropriate, information regarding the project that produced the document. The collection spans 1956 to the present. Three main categories of documents are included: (1) reports, studies, and papers submitted by projects funded by the National Institute on Disability and Rehabilitation Research (2) articles published in rehabilitation-related periodicals; and (3) commercially published books. Some non-print materials are also included.

NIDRR Project Database contains information on every project funded by NIDRR from 1993 to the present.

NARIC Knowledgebase represents 25 years of collecting resources for information and referral. The database includes agencies and organizations, directories, databases, journals and other periodicals, and online resources.

NARIC is moving toward a digital collection by currently archiving electronic copies of current journal articles. NARIC will expand this collection, digitizing existing publications for safer storage and easy retrieval and plans to expand its online services to include virtual reference through chat interface and shopping cart technology to order documents directly from REHABDATA.

Disability and Business Technical Assistance Centers

Public and private agencies, and people with disabilities, experienced an increased need for information after the 1990 passage of the ADA. In 1991, with Congressional support, NIDRR established 10 regional Disability and Business Technical Assistance Centers (DBTACs) that have continued to provide comprehensive technical assistance and training on the ADA. The DBTACs, now also known as ADA and Information Technology (ADA & IT) Technical Assistance Centers, have provided services to

employers, businesses, architects, schools, transportation and telecommunications systems, and state and local governments to help these entities fulfill their ADA obligations. The ADA & IT Centers also have assisted individuals with disabilities throughout the nation by providing current ADA information and referrals to local sources of expertise in advocacy and services. In 2001, the Centers began offering training and technical assistance to educational institutions on ways to make information technology accessible to all users.

Assisting Grantees to Improve Dissemination Efforts

The KDU program has increased the outreach of grantees in many ways and has taken advantage of the growth of the World Wide Web and distance learning techniques to promote electronic dissemination. The National Center for the Dissemination of Disability Research (NCDDR) assists grantees with dissemination issues. NCDDR publishes the *Research Exchange*, a newsletter for NIDRR grantees. Presentations at the National Association of Rehabilitation Research and Training Centers (NARRTC), Rehabilitation Engineering Research Center meetings, and technical assistance in one-on-one sessions have helped to increase the number of NIDRR grantees with Web sites from 33 percent to more than 85 percent over a 5-year period. Currently, almost all NIDRR grantees have Web sites. Continued monitoring of the sites and referring grantees to tools such as the Web Accessibility Initiative (WAI) have greatly improved the accessibility of the sites for people with disabilities.

Current NIDRR Knowledge Dissemination and Utilization Projects

The table below summarizes current knowledge dissemination and utilization projects. Although these projects are funded specifically to make research information available to various audiences, please note that all grantees are required to conduct dissemination activities.

Summary of Current NIDRR Knowledge Dissemination and Utilization Projects (Projects are in order of date first funded)						
Project	**What it does**	**Who it serves**	**What it produces**	**First Funded**	**Funding Per year**	**NIDRR Research only?**
National Rehabilitation Information Center (NARIC) HeiTech Services, Inc. Lanham, MD	Maintains a research library of more than 65,000 documents. Responds to a wide range of information requests, providing facts and referral, database searches, and document delivery. Through toll-free telephone information referral and the Internet, disseminates information gathered from NIDRR-funded projects, other federal programs, and from journals, periodicals, newsletters, films, and videotapes. Provides on-line assistance.	▪ Researchers ▪ General public ▪ Consumers ▪ Librarians ▪ Students ▪ Disability organizations ▪ NIDRR staff	REHABDATA, a bibliographic database on rehabilitation and disability issues. NIDRR Project Database contains information on every project funded by NIDRR from 1993 to the present. RehabWire is a semi-monthly newsletter featuring NIDRR research projects and documents on specific topics. RehabWire is available in both HTML and PDF formats. NARIC Knowledgebase includes more than 2,800 groups, organizations, facilities, agencies, journals, magazines, newsletters, and Internet resources. NARIC Information Brochures Librarian's picks	2/16/1990 for 3 years 8/16/1993 for 37 months 2/1/1997 for 22 months 2/1/1999 for 35 months 1/1/2001 for 3 years	FY 04 $725,472	No

	Summary of Current NIDRR Knowledge Dissemination and Utilization Projects					
	(Projects are in order of date first funded)					
Project	**What it does**	**Who it serves**	**What it produces**	**First Funded**	**Funding Per year**	**NIDRR Research only?**
ABLEDATA ORC Macro Silver Spring, MD 800-227-0216	Provides objective information through toll-free telephone service and the Internet on assistive technology and rehabilitation equipment available from domestic and international sources to consumers, organizations, professionals, and caregivers. Several countries have joined with ABLEDATA to form the International Alliance of Assistive Technology Information Providers.	■ Consumers ■ Organizations ■ Professionals ■ Caregivers ■ International professionals and researchers	ABLEDATA database of assistive technology, which contains objective information on more than 30,000 commercially produced and custom-made assistive devices. Publications to help consumers select assistive products and to help patrons better use the ABLEDATA Web site and other resources: Fact Sheets and Informed Consumer Guides. Guide to ABLEDATA Indexing Terms has also been translated into Japanese. Columns for disability newsletter and magazines.	2/1/1992 for 3 years 10/1/1996 for 5 years 10/1/2002 for 5 years	FY 04 $635,313	No

Summary of Current NIDRR Knowledge Dissemination and Utilization Projects (Projects are in order of date first funded)						
Project	**What it does**	**Who it serves**	**What it produces**	**First Funded**	**Funding Per year**	**NIDRR Research only?**
National Center for the Dissemination of Disability Research (NCDDR) Southwest Educational Development Laboratory Austin, TX	**Research** - surveys, focus groups, and other data collection strategies to clarify information needs among a variety of target groups. Topics include dissemination and KDU/KT theory, literature, strategies and best practices; cultural diversity aspects of communication; evaluation of dissemination work of grantees (longitudinal study); evaluation of accessibility of Web sites; aggregation of research information. **Demonstration Activities** designed to test the effectiveness of innovative approaches to increasing access and use of research outcomes developed by NIDRR grantees. **Dissemination and Utilization** provides supports to centralize access and focus on knowledge surrounding major areas of NIDRR research and related activities. Maintains a toll-free telephone, electronic, and fax communication channels for use by grantees and others. **Technical Assistance** to NIDRR grantees through consultation, joint planning, and implementation of dissemination plans. Also to boards of Office of Special Education Programs (OSEP) information projects, NIDRR staff, legislators.	▪ NIDRR grantees ▪ State vocational rehabilitation officials ▪ State education officials ▪ Legislators ▪ Media ▪ Rehabilitation professionals ▪ Disability organizations ▪ Consumers ▪ Researchers ▪ International researchers	▪ The *Research Exchange* Newsletter ▪ Electronic Library ▪ Biblioteca Electrónica ▪ Literature Reviews ▪ Guides to Resources Produced by NIDRR Grantees ▪ NIDRR Success Stories ▪ FOCUS Technical Briefs ▪ Publications List ▪ Web site portals ▪ Listservs ▪ Awards and Recognition ▪ Workshops	8/1/1995 for 4 years 9/30/1999 for 5 years	$750,000	Yes

	Summary of Current NIDRR Knowledge Dissemination and Utilization Projects (Projects are in order of date first funded)					
Project	**What it does**	**Who it serves**	**What it produces**	**First Funded**	**Funding Per year**	**NIDRR Research only?**
National Resource Center for Parents with Disabilities Through the Looking Glass Berkeley, CA	Provides individualized consultation and training regarding a parenting issues including custody, adoption, adaptive parenting equipment, pregnancy and birthing. Develops and disseminates publications and training materials concerning parents with disabilities. Maintains a national clearinghouse of nearly 3,000 articles, reports, videos, curricula, and periodicals concerning parenting with a disability. Coordinates the National Parent-to-Parent Network. Program consultation that increases local and regional services that are accessible and disability-appropriate.	▪ Parents with a disability ▪ Disability advocates ▪ Legal, medical, intervention and social services providers	Synthesized materials from other agencies and organizations. New materials tailored to address the specific needs of parenting with disabilities. Curricula to train future service providers.	4/1/1998 for 5 years 1/1/2004 for 3 years	$500,000	No

Summary of Current NIDRR Knowledge Dissemination and Utilization Projects						
(Projects are in order of date first funded)						
Project	**What it does**	**Who it serves**	**What it produces**	**First Funded**	**Funding Per year**	**NIDRR Research only?**
Center for International Rehabilitation Research Information and Exchange (CIRRIE) State University of New York (SUNY) at Buffalo Center for Assistive Technology Buffalo, NY	Facilitates sharing of information and expertise in rehabilitation research between the U.S. and other countries. Assists rehabilitation research conference organizers in the U.S., funded by the Office of Special Education and Rehabilitative Services (OSERS), to establish an international component within domestic conferences by involving eminent colleagues from other countries. Facilitates international **exchanges** of rehabilitation research experts between research centers in other countries and OSERS funded projects in the U.S. Conducts a workshop on ***Culture Brokering*** - *Bridging the Gap Betweeen the Foreign-Born Consumer and the Rehabilitation Services*.	▪ OSERS grantees ▪ Rehabilitation service providers ▪ International researchers	International rehabilitation research **database**. Users are able to locate research in their field by country, through the CIRRIE web-site. List of electronic bulletin board and discussion groups (Rehab Talk) on the various areas of rehabilitation research. A monograph series on Culture Brokering and the principal cultures of the foreign born population in the U.S. To enable rehabilitation service providers to work more effectively with individuals who were born in other countries, NIDRR funded a series of 11 monographs that described the cultural and customs of foreign countries. The 11 countries chosen for the monographs were those with the highest number of immigrants to the United States.	9/1/1999 for 5 years		No

Summary of Current NIDRR Knowledge Dissemination and Utilization Projects (Projects are in order of date first funded)						
Project	**What it does**	**Who it serves**	**What it produces**	**First Funded**	**Funding Per year**	**NIDRR Research only?**
National Assistive Technology Advocacy Project Neighborhood Legal Services, Inc. Disability Law Unit Buffalo, NY	Provides management- and advocacy-related technical assistance to attorneys and advocates who work for the 56 Protection and Advocacy for Assistive Technology (P&AAT) projects, as well other public entities with an interest in AT funding. Supports the advocacy efforts of attorneys, advocates, service agencies, persons with disabilities and their families as they seek funding for AT services and devices in New York State. Acts as a clearinghouse for documents related to AT funding including administrative hearing decisions, and court-related documents, including briefs and complaints.	Attorneys and advocates who work for the 56 Protection and Advocacy for Assistive Technology (PAAT) projects.	Publications on funding of AT, including newsletters, feature articles, booklets, and training handouts. Web site containing information relating to the funding of AT, including links to other Web-based resources to support AT advocacy efforts. National AT email list.	10/1/1999 for 3 years 10/1/2002 for 3 years	$160,000	Advocacy only
Web Accessibility Initiative - Phase II Massachusetts Institute of Technology W3C Web Accessibility Initiative Cambridge, MA	Develops technical solutions and educational resources to increase accessibility of the Web for people with disabilities. Works with organizations around the world to promote awareness and implementation of Web accessibility solutions. Provides in-house technical assistance to software developers on implementation of accessibility guidelines in their products.	Web community	Advanced guidelines and techniques for accessible Web content, for browsers and media players, and for authoring tools. Expanded techniques and resources for more effective evaluation of Web site accessibility. Online and hard-copy resources, introductory materials for general audiences and technical materials for more advanced audiences, best-practice training resources, reference lists of tools, policies, and events.	10/1/2000 for 5 years	$500,000	No

Summary of Current NIDRR Knowledge Dissemination and Utilization Projects (Projects are in order of date first funded)						
Project	**What it does**	**Who it serves**	**What it produces**	**First Funded**	**Funding Per year**	**NIDRR Research only?**
Traumatic Brain Injury National Data Center Kessler Medical Rehabilitation Research and Education Corporation (KMRREC) West Orange, NJ	As the coordinating center for the research and dissemination efforts of the Traumatic Brain Injury Model Systems (TBIMS) program, creates and disseminates new knowledge about the course, treatment and outcomes of traumatic brain injury. Disseminates TBIMS research results to consumers through a partnership with the Brain Injury Association of America (BIAA).	Anyone interested in traumatic brain injury research	Publication Registry: a database of publications generated by the research projects and programs of the Traumatic Brain Injury Model Systems. Facts & Figures, a newsletter on the status of the National Database of TBI research information, collected by the TBI Model Systems.	7/1/2001 for 5 years	$348,000	Yes
Model Spinal Cord Injury System Dissemination Center The Institute for Rehabilitation and Research (TIRR) Houston, TX	Establish, maintain, and disseminate a bibliography of the academic publications of the MSCIS Centers and the Collaborative Research Projects in SCI. Establish a system to collect, maintain and disseminate consumer and professional education materials produced by the MSCIS Centers and Collaborative Research projects in SCI including a system for uniform reporting and collection of presentations by the MSCIS Centers to all audiences. Establish collaborative relationships with the NIDRR-supported dissemination centers, NARIC and NCDDR.	Anyone interested in spinal cord injury research	National Database of Spinal Cord Injury Resources. Database of Model Spinal Cord Injury System's Publications on Spinal Cord Injury. Database of Model Spinal Cord Injury System's Presentations on Spinal Cord Injury.	9/1/2001 for 5 years	$150,000	No

	Summary of Current NIDRR Knowledge Dissemination and Utilization Projects (Projects are in order of date first funded)						
Project	**What it does**	**Who it serves**	**What it produces**	**First Funded**	**Funding Per year**	**NIDRR Research only?**
National Center on Accessible Information Technology in Education (AccessIT) University of Washington Center on Human Development and Disability Seattle, WA	Promotes the use of electronic and information technology for students and employees with disabilities in educational institutions at all academic levels. Conducts training sessions and presentations at major educational, disability, and technology conferences on how to make informational technology in education accessible to individuals with disabilities and of the availability of resources from AccessIT and of technical assistance from the DBTACs.	▪ Educators ▪ Policy makers ▪ Librarians ▪ Technical support staff ▪ Students and employees with disabilities and their advocates.	AccessIT Knowledge Base, a searchable database of questions and answers regarding accessible E&IT. Information Technology in Education Accessibility Checklist, an online interactive tool to learn about IT accessibility, and to manage IT accessibility goals. Accessible University Mock Site, a mock site for demonstrating web accessibility principles in presentations. Includes a Companion Guide tutorial.	10/1/2001 for 5 years	$700,000	Yes
Technical Support for Data Collection Development: Implementation of NIDRR's Web-Based Performance Reporting System Data Collection RTI International Center for Research in Education Research Triangle Park, NC	Maintains a web-based reporting system for collection of grantee annual performance information. Assists grantees with technical and programmatic questions about inputting their annual data into the system.	▪ NIDRR staff ▪ NIDRR grantees of 8 programs (ARRT, D&U, DBTAC, DRRP, FIP, Model Systems, RERC, RRTC)	Annual report of activities and accomplishments by NIDRR grantees. Quarterly updates of the data base.	4/18/2002 for 3 years	FY 04 $182,433	Yes

Summary of Current NIDRR Knowledge Dissemination and Utilization Projects (Projects are in order of date first funded)						
Project	**What it does**	**Who it serves**	**What it produces**	**First Funded**	**Funding Per year**	**NIDRR Research only?**
Research Utilization Support and Help (RUSH) Project Southwest Educational Development Laboratory Austin, TX	Assesses the use and obstacles to use of NIDRR-sponsored research by target systems. Develops research-based models to suggest effectiveness under particular circumstances. Provides information and technical assistance to NIDRR grantees to enhance utilization planning and related outcomes. Facilitates networking via Web site, toll-free number, and informational products. Solicits applications to fund Research Utilization Awards (RUA).	▪ NIDRR grantees conducting research activities. ▪ NIDRR management responsible for developing research project priorities	New research-based utilization models designed to accommodate diverse audiences, project inputs, and strategies for bringing research to practice. Data demonstrating effectiveness of model application by topic and target audience. Targeted informative e-mail and Web-based resources.	6/1/2003 for 5 years	$350,000	Yes

Section 4. New Priorities for NIDRR Knowledge Dissemination and Utilization Projects

Final Priorities and Notice Inviting Applications

In the May 5, 2005 *Federal Register*, NIDRR published final priorities for two knowledge dissemination and utilization projects. Priority # 1is International Exchange of Information and Experts in Disability and Rehabilitation Research; and Priority #2 is Innovative KDU for Disability and Professional Organizations and Stakeholders. Substantive issues that apply to both priorities are discussed in the analysis of comments and changes. Also see the Notice Inviting Applications for these two priorities.

Notice of Proposed Priority for a National Center for Dissemination of Disability Research

In the same issue of the *Federal Register*, NIDRR also published a Notice of Proposed Priority for a National Center for Dissemination of Disability Research. The background statement and proposed activities are directly relevant to the work of the panel. The National Center for the Dissemination of Disability Research will serve as a lead center in the area of Knowledge Translation/Knowledge Dissemination and Utilization. This center will ensure that NIDRR constituencies have ready access to high-quality, research-based information that has the potential to improve the lives of individuals with disabilities. The center must:

1. Identify standards, guidelines, and methods appropriate for developing evidence-based systematic reviews of disability and rehabilitation research;

2. Serve as a technical assistance resource to NIDRR grantees to ensure that research studies will meet standards for inclusion in evidence based systematic reviews;

3. Develop partnerships with existing collaborations and registries to identify gaps and opportunities and to facilitate the systematic review of disability and rehabilitation research;

4. Identify and promote the use of evidence-based reviews in topic areas developed in collaboration with NIDRR and its grantees;

5. Identify, develop, and assess the effectiveness of strategies for dissemination of high quality information to diverse target populations; and

6. Serve as a technical assistance resource to NIDRR grantees to ensure the use of effective strategies for dissemination of high quality information to diverse target populations.

Section 5. The Future of Knowledge Translation at NIDRR

NIDRR is refining its dissemination activities by moving to a greater alignment with current thinking on knowledge translation: the exchange, synthesis, and ethically sound application of knowledge within a complex system of relationships among researchers and users. NIDRR anticipates more vetting of research by expert groups, using existing standards (or developing specialized standards), increasing outreach to existing collaborations, and including NIDRR-funded work in recognized information sources. NIDRR will be incorporating new expectations and requirements into program announcements, monitoring, reporting, and evaluations.

There are two main considerations in developing knowledge translation plans at NIDRR: the Long Range Plan and the NIDRR Logic Model. These two guiding documents are explained below, followed by the challenges NIDRR faces in developing its knowledge translation activities. NIDRR's agenda in the area of knowledge translation is designed to:

- Increase the availability of relevant information to NIDRR's intended beneficiaries by developing and implementing a systematic approach to information vetting; and

- Increase understanding of how to best communicate new knowledge to beneficiaries.

It is this agenda that NIDRR is asking the planning panel to consider and to recommend strategies that NIDRR can use in pursuing this agenda.

NIDRR Long Range Plan

NIDRR is required to publish a proposed 5-year Long Range Plan in the *Federal Register*, solicit public comment on the proposed plan, and produce a final Long Range Plan. The purpose of the plan is to guide NIDRR rehabilitation research. The plan is developed with extensive input from a steering committee of researchers, service providers and people with disabilities. NIDRR solicited comments through a Web site and through six national videoconferences. NIDRR also consulted with the Interagency Committee on Disability Research, the National Council on Disability and other federal partners. The proposed 2005-2009 Long Range Plan will be released for public comment within the next few weeks.

The long range plan (particularly the Logic Model and Management chapters) present multi-year strategies for improving the availability of research measures, methods, and models (tools). Improved tools will result in improved interventions; however, interventions that do not have appropriate measures and methods are unlikely to meet Cochrane, CONSORT, OXFORD, or other guidelines.

NIDRR Logic Model

To provide a theoretical framework for the Long Range Plan and guide implementation of the plan, NIDRR developed a program logic model that represents the different types of short-term and intermediate outcomes the agency's R&D investments are designed to produce and the interrelationships among these intended effects (see Figure below). The logic model also serves as the framework for NIDRR's performance assessment and outcomes evaluation processes. The new logic model places knowledge translation into a more prominent position than it was in the past: as one of the main outcome arenas, along with capacity building and R&D.

NIDRR Logic Model: Targeted Outcome Arenas
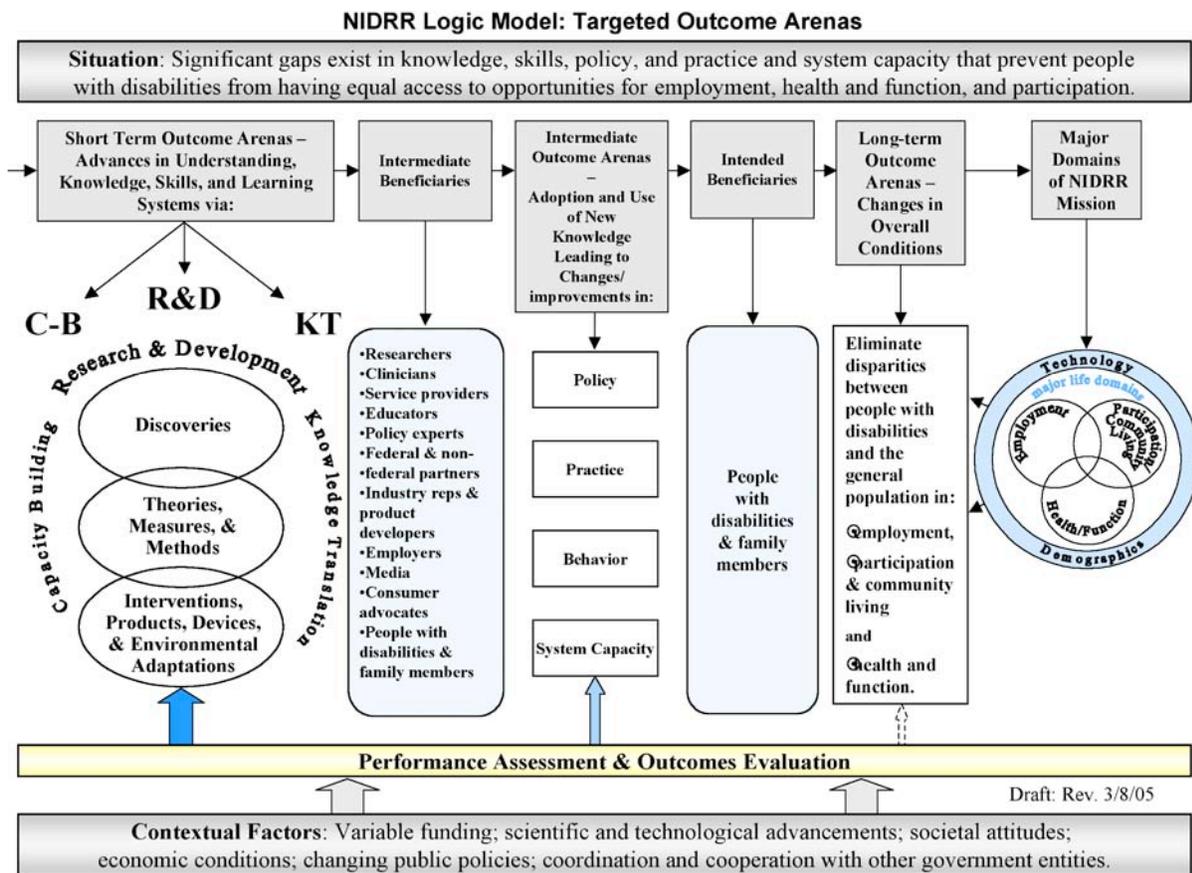
Major Domains of NIDRR Mission

The focus of NIDRR is research and development applied to maximizing the participation of people with disabilities. This activity is centered on the three major life domains (a) employment, (b) participation and community living, and (c) health and function. Interlocking circles represent these inter-related domains. The achieving goals related to these three major life domains is facilitated by (d) technology and (e) demographics of disability, which addresses characteristics and trends in the population of people with disabilities.

The **employment** circle represents research on employment-related activities and strategies to improve employment outcomes and labor force participation. Lack of parity in employment remains one of the greatest barriers for people with disabilities. Research is needed to enable Americans with disabilities to access careers, integrate into the workforce, and participate as full members in the economic marketplace.

The **participation and community** living circle represents the interaction with the social and built environment. This domain focuses on direct supports that increase the availability of acceptable options and opportunities to make choices and enhance participation in everyday activities. To achieve full community living and participation, people with disabilities need safe and affordable housing, access to transportation, access to the political process, and access to services, programs and activities at public and private facilities.

The **health and function** circle represents the structure and function of the human body, as well as strategies to prevent, identify, assess or resolve causes and consequences of disability. Health and function encompasses research to achieve outcomes at the individual level: improved functioning, fitness, and better health, including mental health. It also addresses goals at the system level, such as effective service delivery systems, better access (financial and logistical) to health care services, and the assessment of rehabilitation effectiveness.

The outer circle represents two domains: **technology** for access and function and **demographics** of disability. Technology for access and function is essential to community integration, employment, and health and function, and plays a major role in enabling a good fit between individuals with disabilities and the environment. Demographics of disability emphasize describing and characterizing individuals with disabilities to provide a better understanding of disability.

Situation

The uppermost block in the logic model, labeled **situation,** highlights the gaps in knowledge, skills, policy and practice that hinder attainment of parity in employment, health and function, and participation for people with disabilities compared to the non-disabled population.

Short-Term Outcome Arenas

Short-term outcomes refer to advancements in understanding, knowledge, skills and learning systems that result from the successful implementation of program activities and the use of R&D outputs. Within the NIDRR logic model and in the context of disability and rehabilitation research, these generic outcomes have been translated into the agency's investments in three major functional components corresponding to the three NIDRR strategic goals:

1. capacity-building for research to practice, (C-B),
2. research and development (R&D), and
3. knowledge translation and dissemination (KT&D) including technology transfer.

The R&D arena is subdivided into three sub-arenas to reflect advancements in knowledge that occur through (a) discoveries, (b) new or improved theories, measures and methods, (c) interventions and programs, and (d) products and environmental adaptations. Generating new knowledge in this short-term outcomes block is the primary area of direct responsibility for which NIDRR holds itself accountable.

Although the three strategic goals are separately discussed, research is supported by capacity building and feeds knowledge translation, but the process is not linear. The generation of new knowledge raises new

questions, calls for new skills and leads to further discoveries, theories and interventions, multiplying the efficacy of NIDRR's investment.

Capacity Building

NIDRR will focus its specific capacity building activities primarily on the need to train new investigators who are able to pursue topics of importance to NIDRR's research agenda, and to otherwise increase the capacity of the system to carry out complex studies. NIDRR's training agenda includes cross-training individuals from other disciplines in topics relevant to disability issues, and training of promising young people with emphasis on persons with disabilities and underrepresented groups to facilitate their participation in the research process.

Research and Development

Research and development (R&D) is divided into three sequential, but closely related, outcome arenas. Research begins with significant findings (arena one), and moves through theory, measure and research method development (arena two), ultimately to enable the development of effective new and improved interventions, and new and improved devices and environmental adaptations (arena three). A product may be a new device or technique. An adaptation may include methods to improve physical, behavioral or virtual environments.

Knowledge Translation

The ability to effectively translate and transfer the knowledge and products generated through R&D activities is critical to NIDRR's mission. NIDRR must successfully disseminate this information for use by intended target audiences. Consideration of each project that NIDRR would support will include the potential for translation of knowledge gained through the project to the target audiences, which are described in the next section. Previously referred to as the "Knowledge Dissemination and Utilization" component of NIDRR's agenda, this arena has been renamed Knowledge Translation and Dissemination (KT&D) to reflect the increased emphasis within the federal government on the importance of systematic review and synthesis of R&D results.

Intermediate Beneficiaries

This component refers to the beneficiaries of NIDRR products and services as well as the recipients of the outputs and outcomes generated by NIDRR-funded grantees. This combined and frequently overlapping array of recipients includes individuals with disabilities and family members, researchers, clinicians and engineers, educators, service providers, product developers, policy experts and decision-makers, federal and non-federal partners, industry representatives, employers, media, and consumer advocates.

Intermediate Outcome Arenas

Intermediate outcomes refer to expected or actual changes in the action system that occur at least in part as a result of the external use or adoption of program outputs and short-term outcomes.

Intended Beneficiaries

The intended beneficiaries of NIDRR's investments are people with disabilities and their families.

Performance Assessment & Outcomes Evaluation

The last component of the NIDRR logic model is NIDRR's multi-level evaluation system. The intensity of the assessment and evaluation efforts is proportional to the thickness of the arrows. Performance assessment takes place annually and is focused on evaluating grantee progress and the quality and relevance of R&D findings and accomplishments relative to the short-term and intermediate outcome arenas. Moreover, performance assessment identifies the strengths and weaknesses of portfolio areas, defined by the major domains of NIDRR's mission and the agency's program funding mechanisms. Data

from these annual performance assessment and portfolio reviews are used to satisfy GPRA and PART requirements and inform program improvement efforts. Outcomes evaluation occurs periodically and is focused primarily on a retrospective assessment of the long-term achievements of a portfolio area relative to both short-term and intermediate outcome arenas, as well as any contributions at the societal level to improving the overall conditions of people with disabilities.

Contextual Factors

Some of the factors that may change the activities implemented by NIDRR, either directly or indirectly, are called "contextual factors" and are shown at the base of the logic model. Changes may be mandated directly in changing policies or indirectly in a changing environment that might require new strategies. The contextual factors include variable funding, scientific and technological advancements, societal attitudes, economic conditions, changing public policies, and coordination and cooperation with other government entities.

Challenges in Knowledge Translation at NIDRR

The long range plan and the logic model provide the context within which NIDRR must plan its knowledge translation strategy. A major challenge facing NIDRR is diversifying knowledge translation activities to better serve various constituencies. While research organizations generally are good at peer-to-peer dissemination, the leap required from research to practice can be much more difficult. As reflected in the NIDRR logic model, this process demands filtering the information, determining the quality of the findings (source, content), and aggregating research information from a number of NIDRR research venues (no single project addresses all aspects of a problem). It also requires a clear determination of how the research was conducted and how it fits the user's needs.

Another challenge will be determining which systematic review processes are appropriate for NIDRR research. Rehabilitation research is included in some of systematic reviews, and not in others. See the article: Where Is Rehabilitation Placed In The World-Wide Trend Towards Evidence Based Health Care?

The wide range of subject areas, methods, disciplines, and target audiences complicates the problem of accessing quality disability and rehabilitation research results. NIDRR's long range plan and logic model are based on the premise that no one approach such as the *What Works Clearinghouse* for research in support of *No Child Left Behind* can address the diversity of disability and rehabilitation areas. However, it is crucial that linkages and search strategies be developed to present NIDRR sponsored results through appropriate channels that assess quality. NIDRR does not operate service systems. Consequently, it is essential that research reports be closely linked to service systems through channels that are recognized by key target populations associated with those channels. It is likewise essential that quality external reviews be associated with the results from NIDRR projects.

NIDRR is working to ensure that NIDRR sponsored KDU projects link to appropriate resources and incorporate appropriate evidence grading relationships. However, in most instances research reports will not be graded or evaluated, for example, by the National Rehabilitation Information Center (NARIC) or the Center for the Dissemination of Disability Research (NCDDR) or other NIDRR experts. In many instances, experts will be reviewers from sources such as RESNA, editorial reviewers using guidelines such as CONSORT, and compilers of systematic reviews such as AHRQ. Some grading may be through linking NIDRR sponsored research to existing clearinghouses or systematic reviews. For example, in

mental health a [recent report by the Milbank Memorial Fund](#) addressed specific needs and examples for Evidence-based Mental Health Treatments and Service.

Here are some of the areas that NIDRR would like the panel to consider:

1. NIDRR is interested in advancing its knowledge translation activities by **emphasizing expert judgments** on the value of information for further dissemination, better accountability for outputs produced by NIDRR researchers, and improved methods for making this information available beyond the research community. What is the best way to achieve these goals?

2. Assisting people with disabilities, their families, and the general public in efficiently accessing information may require "**mediated navigation**," that is, using an intermediary to help in the search for answers to their questions. Intermediaries may be librarians, information specialists, knowledge management specialists, database coordinators or trainers. NIDRR is interested in suggestions on how to maximize the use of multiple mechanisms for dissemination including knowledge sharing practices that make the maximum use of web servers, subscriptions systems, e-forums, feedback systems, databases, virtual libraries and other solutions related activities.

3. NIDRR is interested in **advancing ways to make information accessible to the research community and to disability-related agencies and organizations**. NIDRR will continue to encourage and support dissemination of research information to consumers. Building on NIDRR's foundation of peer-to-peer dissemination, how can individual centers be encouraged to reach out to their constituent populations?

4. A critical issue facing NIDRR is **how to support future knowledge translation** including:

    a. How will NIDRR require its projects to submit their results for review and validation as a method of translation?

    b. How will NIDRR assist its projects to use existing clearinghouses?

Section 6. Current Activities in the Field of Knowledge Translation

This section presents several possible external processes that NIDRR might use to examine the quality of research products. NIDRR recognizes that different types of research are needed to answer different types of clinical questions and that systematic reviews are necessary regardless of the type of design used in a particular study.

Also listed are knowledge translation activities currently underway in other organizations. These organizations conduct research programs are similar to NIDRR's and may serve as examples for the review committee to consider. Canada has been particularly active in promoting knowledge translation in its health care system.

Collaborations

The AGREE Collaboration is an international collaboration that helps developers and users assess the methodological quality of clinical practice guidelines. The AGREE collaboration developed a pro-forma or checklist, called the AGREE instrument, which can be used to help make an informed judgment about the methods that were used to develop a guideline, and an assessment about the overall quality of the guideline and the recommendations it contains.

Campbell Collaboration. The Collaboration was formally established in 2000. The systematic reviews of research evidence prepared and maintained by contributors to the Campbell Collaboration's Review Groups will be designed to meet the needs of those with a strong interest in high quality evidence on "what works." These include members of the public who want to keep abreast of the best evidence on the effects of social and educational policies and practices, service providers, policy makers, educators and their students, and professional researchers. Campbell systematic reviews will be published electronically so that they can be updated promptly as relevant additional evidence emerges, and amended in the light of criticisms and advances in methodology. The Campbell Collaboration will collaborate closely with its sibling organization, the Cochrane Collaboration, which prepares and maintains systematic reviews of the effects of interventions in health care. Joint Cochrane-Campbell Methods Groups are being established.

Cochrane Collaboration is an international non-profit and independent organization, dedicated to making up-to-date, accurate information about the effects of healthcare readily available worldwide. It produces and disseminates systematic reviews of healthcare interventions and promotes the search for evidence in the form of clinical trials and other studies of interventions. The major product of the Collaboration is the *Cochrane Database of Systematic Reviews* which is published quarterly as part of The Cochrane Library. Those who prepare the reviews are mostly health care professionals who volunteer to work in one of the many Collaborative Review Groups, with editorial teams overseeing the preparation and maintenance of the reviews, as well as application of the rigorous quality standards for which Cochrane Reviews have become known. The activities of the Collaboration are directed by an elected Steering Group and are supported by staff in Cochrane Entities (Centres, Review Groups, Methods Groups, Fields/Networks) around the world.

[What Works Clearinghouse](#) (WWC) was established in 2002 by the U.S. Department of Education's [Institute of Education Sciences (IES)](#) to provide educators, policymakers, researchers, and the public with a central and trusted source of scientific evidence of what works in education. On an ongoing basis, the What Works Clearinghouse (WWC) collects, screens, and identifies studies of the effectiveness of educational interventions (programs, products, practices, and policies). It reviews the studies that have the strongest design, and report on the strengths and weaknesses of those studies against the WWC Evidence Standards so that readers know what the best [scientific evidence](#) has to say. The WWC does not endorse any interventions nor does it conduct field studies. The WWC releases study, intervention, and topic reports. A [study report](#) rates individual studies and designs to give readers a sense of how much they can rely on research findings for that individual study. An [intervention report](#) provides all findings that meet WWC Evidence Standards for a particular intervention. Each [topic report](#) briefly describes the topic and each intervention that the WWC reviewed.

Registries

[AIDSInfo](#) contains a database to locate current clinical trials for the treatment of acquired immunodeficiency syndrome and HIV-related conditions.

[CenterWatch Clinical Trials Listing Service](#) provides information about clinical research, including listings of more than 41,000 active industry and government-sponsored clinical trials, as well as new drug therapies in research and those recently approved by the FDA. The site is designed to be an open resource for patients interested in participating in clinical trials and for research professionals.

[ClinicalTrials.gov](#) provides regularly updated information about federally and privately supported clinical research in human volunteers. ClinicalTrials.gov gives information about a trial's purpose, who may participate, locations, and phone numbers for more details.

[Community of Science, Inc. (COS)](#) is an Internet site for the global R&D community. COS provides tools and services that enable research professionals to communicate, exchange information and find the people and technologies that are important to their work. These services include: COS Expertise®, the database of detailed, first person profiles of more than 480,000 R&D professionals; COS Funding Opportunities™, the largest source of grant information on the Web; COS Abstract Management System™, an online publishing solution for universities and professional societies; and customized access to a range of professional reference databases including U.S. Patents, MEDLINE®, AGRICOLA, and GeoRef, among others. Community of Science, Inc. is a privately held company.

[CORDIS](#), the Community Research and Development Information Service, provides information on research funded by the European Union.

[Current Controlled Trials](#), Ltd. allows users to search, register and share information about randomized controlled trials. It is part of the Current Science Group of biomedical publishing companies.

[Doctor's Guide](#) is an internet database containing up-to-date, medical news and literature from over 2000 peer-reviewed journals.

[HSRProj](#) is a database about ongoing health services research and public health projects. It is maintained by the National Library of Medicine at the National Institutes of Health.

National Research Register is a database of ongoing and recently completed research projects funded by, or of interest to, the United Kingdom's National Health Service (NHS).

OMNI (Organising Medical Networked Information) is a gateway to evaluated, quality Internet resources in health and medicine, aimed at students, researchers, academics and practitioners in the health and medical sciences. OMNI is created by a core team of information specialists and subject experts based at the University of Nottingham Greenfield Medical Library, in partnership with key organizations throughout the UK and further afield. OMNI is one of the gateways within the BIOME service. BIOME is part of the Resource Discovery Network (RDN) and is funded by the Joint Information Systems Committee (JISC).

PDQ Clinical Trials Database is a database of the National Cancer Institute. PDQ (Physician Data Query) includes approximately 2,000 abstracts of trials that are open/active and approved for patient accrual (accepting patients), including trials for cancer treatment, genetics, diagnosis, supportive care, screening, and prevention. In addition, there is access to approximately 13,000 abstracts of closed clinical trials that have been completed or are no longer accepting patients. Abstracts are written in two formats, the health professional abstract (uses technical terminology) and the patient abstract (uses non-technical language). However, some trials (obtained from the ClinicalTrials.gov database) contain the same text in both the patient and health professional abstracts.

Protomechanics is an online guide for investigators and other clinical staff – at all levels of experience – for developing and conducting a protocol in the Warren Grant Magnuson Clinical Center of the National Institutes of Health (NIH). It describes the steps necessary to design a good clinical protocol; defines the review process needed to ensure scientific validity, ethical merit, and other hallmarks of good research; and outlines the process of managing a study using the protocol and other research tools.

RehabTrials.org is the product of researchers at Kessler Medical Rehabilitation Research and Education Corporation (KMRREC) interested in using the world wide web to encourage and support an increase in clinical trial activity in medical rehabilitation. Whenever possible throughout the site, contributors are identified and links are provided for additional biographic information. A number of the trials have been supported by NIDRR.

Traumatic Brain Injury (TBI) Model Systems Registry (TBIMS Registry), funded by NIDRR, has information on research in TBI including applied technology, physical and rehabilitation, medicine, therapeutic interventions, clinical trials, predictors of outcome and outcome measurement, and quality of life issues.

University Evidence-Based Practice Centers

University Evidence-Based Practice Centers (EPCs) manage contracts from public and private organizations to conduct systematic reviews and analyses. The EPCs produce evidence reports and technology assessments and also conduct training in evidence-based research.

Center for Outcome Measurement in Brain Injury is an online resource for detailed information and support on outcome measures for brain injuries. The measures included in the COMBI are commonly used in the field of brain injury. The centers submitting the information shared here are all Traumatic Brain Injury Model System grants (funded by NIDRR).

At the Rehabilitation Institute of Chicago, the Center for Rehabilitation Outcomes Research (CROR) is responsible for conducting research in outcome studies related to measuring the impact of medical rehabilitation over the long term in patients with disabilities.

Centre for Reviews and Dissemination (CRD) at the University of York, UK, was established in January 1994, and provides research-based information about the effects of interventions used in health and social care.

Evidence Based Practice Center at McMaster University in Ontario, Canada is one of three Evidence-based Practice Center designated by the Agency for Health Research and Quality (AHRQ) that is outside the United States. The McMaster EPC has the capacity to produce scientific reviews of existing knowledge in topics assigned by AHRQ and of importance to government, private organizations, consumer groups, and others concerned with health care.

Health Information Research Unit (HIRU) at McMaster University conducts research in the field of health information science and is dedicated to the generation of new knowledge about the nature of health and clinical information problems, the development of new information resources to support evidence-based health care, and the evaluation of various innovations in overcoming health care information problems.

Johns Hopkins Evidence-based Practice Center has performed formal, systematic literature reviews in the areas of cardiology, radiology, kidney disease, eye disease, cancer, endocrinology, hypertension, prevention practices and infectious disease. The EPC has special expertise in performance of cost-effectiveness analyses, decision analyses, utility assessments, and administrative database analyses that are often needed to supplement health practice and technology assessments.

Oregon Evidence-based Practice Center (Oregon EPC) conducts systematic reviews of healthcare topics for federal and state agencies and private foundations. These reviews report the evidence from clinical research studies and the quality of that evidence for use by policymakers in decisions on guidelines and coverage issues. Investigators with Oregon EPC have a particular interest in diagnostic technology assessment, prevention effectiveness, evidence-based informatics, research in managed care, and critical appraisal of cost-effectiveness analysis and decision analysis.

Oxford Centre for Evidence-Based Medicine, Institute for Health Sciences, Oxford, UK.

Stanford-UCSF Evidence-based Practice Center (EPC) is a joint effort between Stanford University and the University of California at San Francisco (UCSF). The Center conducti high quality systematic literature reviews, supplemental syntheses, and technology assessments, and generating evidence reports.

Research Disciplines Databases

Below are some biomedical and health databases that provide sources of practical applications of research.

DARE (Database of Abstracts of Reviews of Effects) contains summaries of systematic reviews which have met strict quality criteria. Included reviews must be about the effects of interventions. Each summary provides a critical commentary on the quality of the review. DARE is one of the databases included on the Cochrane Library, together with the Cochrane Database of Systematic Reviews (CDSR)

which contains the full text of completed reviews carried out by the Cochrane Collaboration, plus protocols for reviews currently in preparation.

EMBASE (Excerpta Medica) is a pharmacological and biomedical database form international literature.

HSTAT (Health Services/Technology Assessment Text) is a free Web-based resource of full-text documents that provide health information and support health care decision making. HSTAT is part of the expanded Health Services Research Information Program coordinated by the National Library of Medicine's National Information Center on Health Services Research and Health Care Technology (NICHSR). NICHSR works to improve the organization and dissemination of the results of health services research, including practice guidelines and technology assessments.

Journal Citation Reports® presents quantifiable statistical data that provides a systematic, objective way to evaluate the world's leading journals and their impact and influence in the global research community. The *JCR*® is available in two editions: the *Science Edition* covers over 6,100 leading international science journals from the ISI database; the *Social Sciences Edition* covers approximately 1,800 leading international social sciences journals from the ISI database.

MEDLINE is the largest component of PubMed, the U.S. National Library of Medicine's (NLM®) database of biomedical citations and abstracts that is searchable on the Web (http://pubmed.gov) at no cost. MEDLINE covers over 4,800 journals published in the United States and more than 70 other countries primarily from 1966 to the present. MEDLINE includes references to articles indexed with terms from NLM's controlled vocabulary, MeSH®.

MEDLINE Plus provides access to extensive information about specific diseases and conditions and also has links to consumer health information from the National Institutes of Health, dictionaries, lists of hospitals and physicians, health information in Spanish and other languages, and clinical trials.

NARIC (National Rehabilitation Information Center), funded by NIDRR, is an online gateway to disability and rehabilitation information organized in a variety of formats.

NIDRR Tools Collection is a web site that supports NIDRR's commitment to the widespread dissemination of the scientific and technological information generated by grantees' research, demonstration projects, and training related activities. A tool is defined here as *an instrument or process created, in whole or part using NIDRR funding, to acquire quantitative or qualitative information, knowledge, or data on a specific disability or rehabilitation issue.* This includes checklists, survey instruments, assessment scales, questionnaires, evaluative software, and interview schedules designed for specific disabilities.

NORD (National Organization of Rare Disorders) maintains databases on rare diseases and organizations that help people with rare diseases.

ORPHANET is a database of information on rare diseases and orphan drugs.

OTseeker contains abstracts of systematic reviews and randomized controlled trials related to occupational therapy.

PEDro, an initiative of the Centre for Evidence-Based Physiotherapy (CEBP), is the Physiotherapy Evidence Database. It has been developed to give rapid access to bibliographic details and abstracts of randomized controlled trials, systematic reviews and evidence-based clinical practice guidelines in physiotherapy. Most trials on the database have been rated for quality.

POEMS stands for Patient-Oriented Evidence that Matters™. It is a subscription-based service. POEMs must meet three criteria: (1) They address a question that faces clinicians; (2) they measure outcomes that clinicians and patients care about: symptoms, morbidity, quality of life, and mortality; and (3) they have the potential to change the way clinicians practice.

QualityTools is a source for practical, ready-to-use tools for measuring and improving the quality of health care. QualityTools is sponsored by the Agency for Healthcare Research and Quality (AHRQ).

PsycINFO® is an electronic bibliographic database that provides abstracts and citations to scholarly literature in the behavioral sciences and mental health.

Web of Science provides seamless access to current and retrospective multidisciplinary information from approximately 8,700 of the most prestigious, high impact research journals in the world. It provides access to the *Science Citation Index*® (1900-present), *Social Sciences Citation Index*® (1956-present), *Arts & Humanities Citation Index*® (1975-present), Index Chemicus® (1993-present), and Current Chemical Reactions® (1986-present), plus archives 1840 - 1985 from INPI.

Standards Checklists

The ASSERT statement is the articulation of *A Standard for the Scientific and Ethical Review of Trials*. It is a structured approach whereby research ethics committees review proposals for, and monitor the conduct of, randomized controlled clinical trials. In order to ensure the ethical conduct of research involving human subjects, the ASSERT checklist comprises items that need to be addressed by investigators applying for approval to conduct a clinical trial.

The CONSORT statement is a research tool that takes an evidence-based approach to improve the quality of reports of randomized trials. CONSORT comprises a checklist and flow diagram to help improve the quality of reports of randomized controlled trials. It offers a standard way for researchers to report trials. The checklist includes items, based on evidence, that need to be addressed in the report; the flow diagram provides readers with a clear picture of the progress of all participants in the trial, from the time they are randomized until the end of their involvement. The intent is to make the experimental process more clear so that users of the data can more appropriately evaluate its validity for their purposes.

The GRADE Working Group (Grading of Recommendations Assessment, Development and Evaluation) began in 2000 as an informal collaboration of people with an interest in addressing the shortcomings of present grading systems in health care. The purpose is to develop a common, sensible approach to grading quality of evidence and strength of recommendations. The article *Letters, numbers, symbols and words: how to communicate grades of evidence and recommendations* is available at www.cmaj.ca/cgi/reprint/169/7/677

G-I-N, the Guidelines International Network, is an international not-for-profit association of organizations and individuals involved in clinical practice guidelines. Founded in November 2002, G-I-N has now grown to 52 member organizations including WHO from 26 countries. G-I-N seeks to improve the quality of health care by promoting systematic development of clinical practice guidelines and their application into practice, through supporting international collaboration. G-I-N's Guideline

Library contains regularly-updated information about guidelines of the G-I-N membership. In April 2005 more than 2,600 programs are available.

PROQOLID, the Patient-Reported Outcome and Quality of Life Instruments Database, was developed by Mapi Research Institute to identify and describe PRO and QOL instruments to help choose appropriate instruments and facilitate access to them.

STARD (Standards for Reporting of Diagnostic Accuracy) is a 25-item checklist for the reporting of studies of diagnostic accuracy. A flow diagram provides information about the method of recruitment of patients, the order of test execution and the numbers of patients undergoing the test under evaluation, the reference standard, or both.

Clinical Guidelines

This information covers publications and references on health related research topics that have been peer-reviewed.

ACP/ASIM (American College of Physicians/American Society of Internal Medicine) Guidelines

National Guideline Clearinghouse

American College of Rheumatology Clinical Guidelines

American Diabetes Association

CDC (Centers for Disease Control) Recommends

Combined Health Information Database (CHID)

CPG Infobase (Canadian Medical Association)

Evidence Based Medicine Resource Center

InfoPOEMS (PDA material)

Journal of Clinical Outcomes Management

Pediatric Evidence-Based Medicine (University of Washington)

ScHARR Introduction to Evidence-Based Practice on the Internet

Seeking the Evidence (method to search for EBM Guidelines)

TRIP Database (Evidence-Based Medicine Search Engine)

UpToDate

Open Access Journals or E-Journals in Biology and Medicine

The following are journals on the Web that provide immediate access to their content without charging readers or their institutions for access.

[BMC Medical Informatics and Decision Making](#) is an open access, peer-reviewed journal that considers articles on information management, systems and technology in healthcare and the study of medical decision-making. It is published by [BioMed Central](#), an independent publishing house committed to providing immediate free access to peer-reviewed biomedical research.

[Data Science Journal](#) is a peer-reviewed electronic journal publishing papers on the management of data and databases in Science and Technology. It is a journal of the Committee on Data for Science and Technology (CODATA) of the International Council for Science.

[Directory of Open Access Journals](#) is a service that provides access to quality controlled Open Access Journals. The Directory aims to be comprehensive and cover all open access scientific and scholarly journals that use an appropriate quality control system, and is not be limited to particular languages or subject areas. The aim of the Directory is to increase the visibility and ease of use of open access scientific and scholarly journals thereby promoting their increased usage and impact.

[Ibiblio](#), one of the largest "collections of collections" on the Internet, is a conservancy of freely available information, including software, music, literature, art, history, science, politics, and cultural studies. ibiblio.org is a collaboration of the [Center for the Public Domain](#) and The [University of North Carolina - Chapel Hill](#).

[PLoS Medicine](#) is an open-access journal published by the nonprofit organization [Public Library of Science](#).

[PubMed Central](#) is the National Institutes of Health (NIH) free digital archive of biomedical and life sciences journal literature.

Current Knowledge Translation Activities

[The Synthesis Project](#)
The Robert Wood Johnson Foundation

The Synthesis Project is an initiative of The Robert Wood Johnson Foundation to produce concise and thought-provoking briefs and reports that translate research findings on health policy questions. By synthesizing what is known, while weighing the strength of the research evidence and exposing gaps in current knowledge, the project gives decision-makers reliable information and new insights on complex policy issues. The project pairs researchers with policy analysts to produce Synthesis reports and briefs. Members of the project's advisory group provide insights and guidance to the project and actively participate in the development and review process for Synthesis products.

National Institute of Environmental Health Sciences (NIEHS)
Division of Extramural Research and Training
[Translational Research](#)

The National Institutes of Health currently supports translational research, which originated with medical research. Knowledge translation focuses on what happens with the research outcomes. The NIEHS

defines translational research as the conversion of environmental health research into information, resources, or tools that can be used by public health and medical professionals and by the public to improve overall health and well-being, especially in vulnerable populations.

NIEHS supports a series of translational research programs designed to establish sustainable mechanisms for educating the public about environmental health issues and for supporting individual and community involvement in the identification and investigation of environmental health concerns.

Centers

- Centers for Children's Environmental Health and Disease Prevention Research
Established through collaborative effort by the NIEHS, EPA and CDC in 1999, these Centers combine basic and applied research. Centers possess both laboratory research projects as well as a community-based intervention project.

- Population Health and Health Disparities
Developed by NIEHS, NCI and NIA in 2002, the program supports inter-disciplinary research to elucidate the complex interactions of the social and physical environment, mediating behavioral factors, and biologic pathways that determine health and disease.

Research

- Environmental Justice: Partnership for Communications
Initiated in 1993 this program seeks to foster and strengthen relationships between researchers, providers, and communities.

- Environmental Health Sciences K-12 Education
Initiated in 1993, this program serves two important functions. It raises student awareness about environmental hazards, and it fosters an interest in environmental health sciences.

- Community-Based Participatory Research in Environmental Health
Initiated in 1995 this program places greater emphasis on research and intervention. Projects build upon a functional relationship between researchers and community members. In 2000, the program was expanded to include etiology and exposure assessment. In February 2002, NIEHS established a Federal Interagency Working Group for CBPR.

- Advanced Research Cooperation in Environmental Health
Developed in 1999 this program strengthens the capacity of researchers at minority serving institutions (MSI) to compete for NIH research program grants. This goal is achieved by pairing the MSI with a research-intensive university.

- Health Disparities Research
Initiated in 2000, this program seeks to elucidate the mechanisms by which physical and social environmental exposures impact human health. It fosters collaboration between biomedical researchers and social or behavioral scientists. Projects have a community outreach and education component.

- Ethical, Legal and Social Implications
Initiated in 2002, this program seeks to bring together community groups, environmental health researchers, and behavioral/social scientists to better understand the ethical, legal and social implications of environmental health research. The aim is to enhance the environmental health research agenda.

Outreach

- [NIEHS Core Centers: Community Outreach and Education Program](#)

Developed in 1996, COEPs serve as a bridge between Center researchers and the community served. COEPs translate research findings into useful public health knowledge.

- [Superfund Outreach](#)

Outreach involves communicating Superfund research findings to impacted communities, EPA regulatory makers and industry.

[Evaluation Center@HSRI](#)

The Substance Abuse and Mental Health Services Administration ([SAMHSA](#)), Center for Mental Health Services ([CMHS](#)) funds the Evaluation Center @ Human Services Research Institute. The Evaluation Center @ HSRI is a national technical assistance center for the evaluation of adult mental health systems change. The mission of the Evaluation Center@HSRI is to provide technical assistance in the area of evaluation to States and nonprofit public entities within the States for improving the planning, development, and operation of adult mental health services carried out as part of the Community Mental Health Services Block Grant program.

The Center will accomplish this goal through increasing the capacity of States and political subdivisions of States to conduct evaluations as well as through direct and indirect technical assistance activities; by supporting the evaluation of systems implementation strategies and changes at the State and sub-State levels that have the potential for informing similar changes in other areas; and by encouraging the dissemination and use by other States and local communities of the results of these evaluations.

Canadian Institutes of Health Research
[Knowledge Translation](#)

Knowledge translation, transfer, mobilization, health innovation or commercialization, are all terms used to describe the complex set of components required to advance evidence generated from research into effective changes in health policy, practice or products. At CIHR, knowledge translation is the process from the creation of evidence to its ultimate impact. Knowledge creation and knowledge translation (KT) are intertwined. KT is complex and not always a straightforward chain of linear events. It is an active process that involves a multitude of stakeholders and requires relationships between suppliers and users of knowledge at various stages. A number of factors are often cited as impediments to the translation of knowledge into use. These factors include:

- A lack of awareness of existing research

- Variation in the capacity of research users to access, appraise and apply the available research evidence (receptor capacity)

- Poor or scarce evidence on which to base decisions

- Inaccessible or irrelevant evidence - may not be relevant to user needs or not tested in practical settings

- Few incentives to use the evidence and unclear benefits for either researchers or users of research

- Research on the elements needed to improve opportunities for KT is ongoing. There are a number of elements, however, which have been identified as essential to bridging the gap between knowledge creation and knowledge use. They include:

  - High quality evidence in a developed field;

  - The involvement of users in shaping the research agenda to ensure relevancy and influence uptake;

  - Cultural shift in research institutions and among practitioners;

  - Environments which are conducive to two-way exchange of knowledge and that capitalize on inter- and trans-disciplinary integration of expertise;

  - Demonstration projects and research on discovering effective knowledge translation strategies;

  - Obvious pipeline of knowledge flow;

  - Creativity; and

  - The proper alignment of resources to influence change and ensure sustainability.

For the past three years, CIHR has been responding to its KT mandate through a variety of activities. In 2001, a draft framework was presented to Governing Council that provided a rationale for the scope of CIHR's activities in KT. This Framework was based on an understanding that knowledge translation was a process that included all activities between the creation of knowledge and its application. Furthermore, the Framework illustrated a move from researcher push and user pull models to an emphasis on a model that was based more on exchange of information: researchers and users jointly responsible for the uptake of information.

Investments in KT have included the KT RFA, Institute RFAs, support for applications in the open competition with a KT component, Science Writers program, Edmonton Training Centre, Training Program Grants, KT Chair, Centres for Research Development, ICE Teams, and NET grants. The CAHR program, in particular, has involved a partnership between researchers and community interests at all stages of the research project, and has been structured to achieve rapid and effective transfer of research findings through the community partner. Financial contributions to explicit KT programs to date have been approximately $2.7M (2000), $7M (2001), $10M (2002), $9M (2003).

Overview of Knowledge Translation: http://www.cihr-irsc.gc.ca/e/22845.html
Knowledge Translation Resource Materials: http://www.cihr-irsc.gc.ca/e/8537.html

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Centre for Knowledge Transfer

The Centre for Knowledge Transfer in Canada is a national training centre in the area of knowledge utilization and policy implementation relating to health services research. The participating organizations include universities, research institutes, and regional health authorities. The principal faculty members are drawn from four universities: Laval, Manitoba, Saskatchewan and Alberta. Funding is received from the Canadian Health Services Research Foundation, Alberta Heritage Foundation for Medical Research, and Canadian Institutes of Health Research. In addition, the Centre receives in-kind contributions and support from its participating universities. The Centre maintains a list of resources on knowledge transfer.

Institute for Work & Health
[Knowledge Transfer & Exchange](#)

Knowledge Transfer & Exchange (KTE) is a core business at the Institute for Work & Health in Canada. The Institute commits significant resources to put research findings into the hands of key audiences. They achieve this through an exchange of information and dialogue that ensures the research information is both relevant and applicable to stakeholder decision-making. Since it was established in 1990, the vision of the Institute has been to reduce injury, illness and disability in Ontario workplaces. Through its research, the Institute works to understand the many complex links between work and health. Through its knowledge transfer activities, the Institute also provides evidence-based practical tools for health-care providers, policy-makers and all those involved in the workplace. More than 60 research staff, representing a variety of disciplines, are currently working at the Institute The research is funded mainly by a core budget from the [Ontario Workplace Safety & Insurance Board](#). IWH researchers also attract many grants and contracts from other national and international agencies and foundations. Although much of the research focuses on Ontario-based workers and workplace health issues, the Institute also takes an active role in national and international workplace health studies.

[Knowledge Transfer & Exchange](#)
Faculty of Medicine, University of Toronto

The Knowledge Translation Program was founded in the year 2000 by the Departments of Medicine, Family and Community Medicine, Health Policy Management and Evaluation, and Public Health Sciences, through funding from the Academic Priorities Fund, University of Toronto.

The program was developed in response to the gap between research evidence and clinical practice and the need to focus on the processes through which knowledge is effectively translated into changed practices. Since 2000, it has grown to involve members of virtually every department of the Faculty of Medicine and has attracted considerable research support. The KTP is thus pursuing both models of effective KT and the development of a research agenda in this innovative and trans-disciplinary field.

The mission is to develop, test, and implement evidence-based knowledge translation strategies and models to bridge the gap between research evidence and practice.

Goals:
- To develop a collaborative multidisciplinary network of researchers with expertise in areas such as evidence based medicine, health informatics, technology, education, organizational learning, and interdisciplinary collaboration, committed to the field of knowledge translation.

- To strengthen our understanding of knowledge translation theory and its practical applications by using rigorous methods to investigate traditional and innovative educational, administrative, and organizational interventions.

- To develop partnerships among researchers, educators, clinicians, policymakers, consumers, and other stakeholders to promote application of knowledge translation theory into practice.

- To disseminate and share developments in the field of health knowledge translation through research rounds, work-in-progress sessions, conferences, courses, the KTP website, and consultations.

The Knowledge Translation Program reflects the goal of the Canadian Institutes of Health Research "to find the best mechanisms possible to strengthen relationships among health researchers and users of health knowledge, enhance capacity for knowledge uptake, and accelerate the flow of knowledge into beneficial health applications…knowledge translation is the exchange, synthesis and ethically-sound

application of researcher findings within a complex system of relationships among researchers and knowledge users."

About Knowledge Translation. A list of tools and strategies commonly used in knowledge translation. www.ktp.utoronto.ca/whatisktp/tools/

Knowledge Translation References recommended by participants of a retreat held at University of Toronto, June 2003.

Section 7. A Sample of NIDRR Disability and Rehabilitation Research Products

This section is designed to show panel members typical products developed by NIDRR grantees. Below is a table of research products submitted by NIDRR grantees to the National Rehabilitation Information Center (NARIC) from October to December 2004. They are analyzed by Level of Evidence, Dissemination Method, NIDRR Long-Range Plan Area and Project Type. It presents what one might find if one were to apply existing evidence grading to products of current NIDRR research projects.

- The assessment by NIDRR of "evidence quality" is for illustrative purposes. A wide range of products, topics, as well as a diversity of methods of dissemination is present in the 112 products;

- 87 of 112 entries underwent some form of formal review (peer reviewed journal, conference presentation);

- 35 of 112 appeared in a peer reviewed journal;

- 49 of 112 were papers presented at a professional conference and subsequently published in the conference proceedings;

- 20 of 112 were 'Outcomes' Research or ecological studies;

- 57 of 112 were assessed by NIDRR staff to have fair research-based evidence to support recommendations; and

- 10 of 112 were assessed by NIDRR staff to have recommendation(s) based on expert opinion and panel consensus.

Project types include:
RRTC: Rehabilitation Research and Training Center
RERC: Rehabilitation Engineering Research Center
DRRP: Disability and Rehabilitation Research Projects
ARRT: Advanced Rehabilitation Research Training
DBTAC: Disability and Business Technical Assistance Centers

Document	Level of Evidence (see key below)	Dissemination Method	NIDRR LRP Area & Project Type
Understanding emerging disabilities	2c	Disability & Society, 19(4), 323-337	Associated Areas RRTC
Access to vocational rehabilitation: The impact of race and ethnicity	2c	Journal of Visual Impairment & Blindness, 98(7), 410-419	Employ; RRTC
Health status, community integration, and economic risk factors for mortality after spinal cord injury	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1764-1773	DRRP

Document	Level of Evidence (see key below)	Dissemination Method	NIDRR LRP Area & Project Type
A demographic profile of new traumatic spinal cord injuries: Change and stability over 30 years	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1740-1748	DRRP
Effects of counselor race on racial stereotypes of rehabilitation counseling clients	2c	Disability and Rehabilitation, 26(20), 1214-1220	DRRP
Aging with spinal cord injury: Changes in selected health indices and life satisfaction	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1848-1853	SCI Model System
Environmental factors and their role in participation and life satisfaction after spinal cord injury	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1793-1803	SCI Model System
Patterns of alcohol and substance use and abuse in persons with spinal cord injury: Risk factors and correlates. Northwest Regional Spinal Cord Injury System	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1837-1847	SCI Model System
Gender and minority differences in the pain experience of people with spinal cord injury	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1774-1781	SCI Model System
Etiology and incidence of rehospitalization after traumatic spinal cord injury: A multicenter analysis	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1757-1763	SCI Model System
Symptoms of major depression in people with spinal cord injury: Implications for screening	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1749-1756	SCI Model System
Outcomes of early surgical management versus late or no surgical intervention after acute spinal cord injury	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1818-1825	SCI Model System
Race, employment, and spinal cord injury	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1782-1792	SCI Model System
Effects of gender on neurologic and functional recovery after spinal cord injury	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1826-1836	SCI Model System
Impact of a pushrim-activated power-assisted wheelchair on the metabolic demands, stroke frequency, and range of motion among subjects with tetraplegia	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1865-1871	SCI Model System
Demographic and socioeconomic factors associated with disparity in wheelchair customizability among people with traumatic spinal cord injury	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1859-1864	SCI Model System
Assessing the influence of wheelchair technology on perception of participation in spinal cord injury	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1854-1858	SCI Model System
Late neurologic recovery after traumatic spinal cord injury	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1811-1817	SCI Model System
Metric properties of the ASIA motor score: Subscales improve correlation with functional activities	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1804-1810	SCI Model System
Patterns of Internet use by persons with spinal cord injuries and relationship to health-related quality of life	2c	Archives of Physical Medicine and Rehabilitation, 85(11), 1872-1879	SCI Model System
The relationship between age and the self-report of health symptoms in persons with traumatic brain injury	2c	Archives of Physical Medicine and Rehabilitation, 85(4, Suppl 2) S61-S67	ARRT
Return to work for persons with spinal cord injury: Designing work supports	3b	NeuroRehabilitation, 19(2), 131-139	SCI Model System
Assistive technology and computer adaptations for individuals with spinal cord injury	3b	NeuroRehabilitation, 19(2), 141-146	SCI Model System

Document	Level of Evidence (see key below)	Dissemination Method	NIDRR LRP Area & Project Type
The independent living center presents an interview with Judy Heumann	5	Audio/Visual	CI/IL RRTC
Developing and systematically implementing participatory action research Rehabilitation Research and Training Center on Full Participation in Independent Living	5	Archives of Physical Medicine and Rehabilitation, 85(4, Suppl 2), S3-S12.	Associated Areas RRTC
The Guide to ABLEDATA indexing terms, September 2004	5	Booklet	Contract
Measurement consistency and three-dimensional electromechanical anthropometry	A	International Journal of Industrial Ergonomics, 33(3), 181-190	RERC
An anthropometric study of manual and powered wheelchair users	A	International Journal of Industrial Ergonomics, 33(3), 191-204	RERC
Modeling spatial interaction through full-scale modeling	A	International Journal of Industrial Ergonomics, 33(3), 265-278	RERC
Raising difficult issues with your service provider	B	Booklet	H&F; CI/IL RRTC
Seeking supported employment: What you need to know	B	Booklet	Employ; RRTC
Promoting self-determination for individuals with psychiatric disabilities through self-directed services: A look at federal, state and public systems as sources of cash-outs and other fiscal expansion opportunities	B	Paper Available from Center	H&F; CI/IL RRTC
This is your life! Creating your self-directed life plan	B	Booklet	H&F; CI/IL RRTC
Individualized service/support planning: Implementation challenges and successful strategies Rehabilitation Research and Training Center to Improve Services for Children with Serious Emotional and Behavioral Disabilities and Their Families	B	Booklet	H&F; CI/IL RRTC
Individualized service/support planning: Implementation challenges and successful strategies	B	Paper Available from Center	CI/IL RRTC
Practice and process in wraparound teamwork	B	Journal of Emotional & Behavioral Disorders, 12(3), 182-192.	CI/IL RRTC
Technologically delivered cognitive assistance with activities of daily living	B	Paper presented at the 2004 annual conference of RESNA (Rehabilitation Engineering and Assistive Technology Society of North America), available on CD-ROM.	RERC
Use of cell phones by elders with impairments: A survey design	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Computer use by middle-aged and older adults with disabilities	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Use of cell phones by elders with impairments: Overall appraisal, satisfaction, and suggestions	B	Technology and Disability, 16(1), 49-57.	RERC
Characteristics of wheelchair users and associated motor vehicle transportation usage	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Development and validation of a frontal impact 6-year-old wheelchair-seated occupant computer model	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Safety belt usability and reach capability of wheelchair users	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC

Document	Level of Evidence (see key below)	Dissemination Method	NIDRR LRP Area & Project Type
Wheelchair seatback loads and deflections in rear impacts	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Using multiple sensors for mobile sign language recognition	B	Paper in Proceedings of Seventh IEEE International Symposium on Wearable Computing, October 2003	RERC
Accessibility information to promote independence for wheelchair users	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Mobile accessibility guide	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Communication and technology policy for people with disabilities: Designing approaches to increase use	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Development of an assessment methodology for identifying accessibility issues for people with disabilities in a manufacturing environment	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Safety issues in the manufacturing environment for people with disabilities	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Retrospective analysis of user needs for workplace accommodations	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
A study of advanced manufacturing technology as a workplace accommodation in a manufacturing environment	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Mobile usability LAB (MU-LAB): A tool for studying medical device accessibility	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
A national survey of accessibility of medical instrumentation	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
A Delphi study to develop a national survey of accessibility of medical instrumentation	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Unitherapy: Software design and hardware tools of teletherapy	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Functional characterization of disability and interface use	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
V2: A new industry standard for universal interface sockets to allow control of mainstream products from any device/interface modality	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Extended usability versus accessibility in voting systems	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Technology and visual impairment: Primary market research, current practice, and needed technology	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Transgenerational design and product differentiators in product development	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Improving accessibility of new mainstream consumer products through participatory development	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC

Document	Level of Evidence (see key below)	Dissemination Method	NIDRR LRP Area & Project Type
Design and development of a manual wheelchair for India	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Vibrations during manual wheelchair propulsion over selected sidewalk surfaces are sensitive to weather-related surface wear	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Revaluation of the vibration exposure power wheelchair users experience when driving over selected sidewalk surfaces	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
A study on the balance function of the IBOT transporter	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Development of a miniature data logger for collecting outcome measures for wheeled mobility	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Evaluation of mouse emulation using the wheelchair joystick	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	RERC
Psychometric and administrative properties of measures used in assistive technology device outcomes research	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
Platform independent and web-based AT outcome data collection tools	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
A conceptual foundation for researching assistive technology outcomes	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
Satisfaction with assistive technology: What are we measuring?	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
The relevance of qualitative research to AT outcome research goals	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
Measuring AT outcomes using the student performance profile: Analysis and recommendations	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
Introduction to assistive technology data in the RSA-911 case service report for application to assistive technology outcomes measurement	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
Overview of legal issues in assistive technology outcomes measurement	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
Creating an assistive technology outcomes measurement system: Validating the components	B	Assistive Technology Outcomes and Benefits, 8-15.	DRRP
Group differences in psychosocial influences of satisfaction with and knowledge of mobility devices	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
Influence of gripping moments on mechanical efficiency of wheelchair propulsion	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
An analysis of trunk excursion in manual wheelchair users	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
Seating and mobility script concordance test (SMSCT): External structure evidence	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP

Document	Level of Evidence (see key below)	Dissemination Method	NIDRR LRP Area & Project Type
Corrective actions necessary for maintaining a wheelchair wheelie	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
Quality of life after traumatic brain injury: A review of research approaches and findings	B	Archives of Physical Medicine and Rehabilitation, 85(4, Suppl 2), S21-S35.	DRRP
A model-based criterion for assessing appropriateness of wheelchair setup	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
Designing an improved variable compliance joystick for driving electric powered wheelchairs	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
Improving electric powered wheelchair operation for patients with traumatic brain injury	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	DRRP
Effect of a pushrim activated power assist wheelchair on the functional capabilities of individuals with tetraplegia	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	SCI Model System
Assessing the influence of assistive technology on people with spinal cord injury using a measure of participation	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	SCI Model System
Upper extremity rehabilitation analysis of children with cerebral palsy using posterior walkers	B	Paper presented at the 2004 annual conference of RESNA, available on CD-ROM.	SCI Model System
Health care transitions: Jim's story	C	Booklet Describing Video tape	H&F; CI/IL RRTC
Web based resources for assistive technology	C	Web Resources List	H&F; CI/IL RRTC
Family quality of life	C	Newsletter	CI/IL RRTC
Improving hearing aid design and performance	C	Hearing Loss, 25(4), 26-31	RERC
Augmentative and alternative communication and cell phone use: One off-the-shelf solution and some policy considerations	C	Assistive Technology, 16(1), 11-17	RERC
Job experiences of personal assistants employed in a consumer-directed personal assistance service programs	C	Rehabilitation Nursing, 29(5), 174-179	SCI Model System
Participation in recreation and sports for persons with spinal cord injury: Review and recommendations	C	NeuroRehabilitation, 19(2), 121-129	SCI Model System
Pushin' on. 20(1) 1-8	C	Newsletter	SCI Model System
Pushin' on. 20(2) 1-8	C	Newsletter	SCI Model System
Pushin' on. 20(1) 1-8	C	Newsletter	SCI Model System
National self-determination and psychiatric disability invitational conference: We make the road by traveling on it: Conference papers	Mixed	Monograph	H&F; CI/IL RRTC
Self-determination for people with psychiatric disabilities: An annotated bibliography of resources	Mixed	Bibliography	H&F; CI/IL RRTC
Workplace accommodations policy highlights 2.05	Mixed	News Review and Analysis	RERC
Workplace accommodations policy highlights 2.04	Mixed	News Review and Analysis	RERC
Workplace accommodations policy highlights 2.02	Mixed	News Review and Analysis	RERC
Workplace accommodations policy highlights 2.03	Mixed	News Review and Analysis	RERC
Workplace accommodations policy highlights 2.01	Mixed	News Review and Analysis	RERC

Document	Level of Evidence (see key below)	Dissemination Method	NIDRR LRP Area & Project Type
Research from the model spinal cord injury systems: Findings from the current 5-year grant cycle	Mixed	Archives of Physical Medicine and Rehabilitation, 85(11), 1737-1739. Research articles included in this journal issue	DRRP
Spinal cord injury update	Mixed	Newsletter	SCI Model System
SCI access	Mixed	Newsletter	SCI Model System
Spinal connection	Mixed	Newsletter	SCI Model System
Rocky Mountain disability and business technical assistance center newsletter 11(1)	Mixed	Newsletter	DBTAC
Section 508 digital talking book	N/A	Text of the Electronic and Information Technology Accessibility Standards developed in support of Section 508 of the Rehabilitation Act	DRRP

Codes for Column on Level of Evidence

From the Centre for Evidence-Based Medicine, Oxford
For the most up-to-date levels of evidence, see http://www.cebm.net/levels_of_evidence.asp

Therapy/Prevention/Etiology/Harm:

1a: Systematic reviews (with homogeneity) of randomized controlled trials
1a-:   Systematic review of randomized trials displaying worrisome heterogeneity
1b: Individual randomized controlled trials (with narrow confidence interval)
1b-:   Individual randomized controlled trials (with a wide confidence interval)
1c: All or none randomized controlled trials
2a: Systematic reviews (with homogeneity) of cohort studies
2a-:   Systematic reviews of cohort studies displaying worrisome heterogeneity
2b: Individual cohort study or low quality randomized controlled trials (<80% follow-up)
2b-:   Individual cohort study or low quality randomized controlled trials (80% follow-up / wide confidence interval)
2c: 'Outcomes' Research; ecological studies
3a: Systematic review (with homogeneity) of case-control studies
3a-:   Systematic review of case-control studies with worrisome heterogeneity
3b: Individual case-control study
4:      Case-series (and poor quality cohort and case-control studies)
5:      Expert opinion without explicit critical appraisal, or based on physiology, bench research or 'first principles'

Agency for Healthcare Research and Quality:

A: There is good research-based evidence to support the recommendation.
B: There is fair research-based evidence to support the recommendation.
C: The recommendation is based on expert opinion and panel consensus.
X: There is evidence of harm from this intervention.