

building capacity, (2) support direct services and programs, (3) increase access to generic services, (4) improve access to community environments, and (5) integrate disability and health agenda.

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Johnston, M.; Diab, M.; Chiu, B., & Kirshblum, S. (2005) **Preventive services and health behaviors among people with spinal cord injury.** *Journal of Spinal Cord Medicine*, 28(1), 43-54. NARIC Accession Number: J49478. Project Number: H133N000022.

Abstract: Cross-sectional survey documents the receipt of selected preventive services and health behaviors of community-dwelling adults with spinal cord injury (SCI) and compares them to the general adult population. Study examined the provision of screening services for colorectal and prostate cancer and oral health examinations, as well as safety- and health-related behaviors including prevention of additional injury, obesity, and smoking. Most rates of service provision and risk behaviors in the SCI sample were similar to those found in the general population. People with SCI need the same general screening and safety services recommended for all people.

Stuifbergen, A. (2005) **Secondary conditions and life satisfaction among polio survivors.** *Rehabilitation Nursing*, 30(5), 173-179. NARIC Accession Number: J49894.

Abstract: Study examined the occurrence of selected secondary conditions, the factors associated with those conditions, and the relationship between secondary conditions and quality of life (QOL) among polio survivors. Data collected from 2,153 participants indicated that secondary conditions were prevalent and associated with decreased life satisfaction. The most frequently experienced secondary conditions were new muscle weakness, sensitivity to temperature in the extremities, fatigue, and chronic pain. Age, age at polio diagnosis, diagnosis of post-polio syndrome, decrease in the ability to perform normal activities, number of assistive devices used, and life satisfaction were found to be significant correlates of secondary conditions. Prompt identification and treatment of secondary conditions are recommended to prevent further decline in health status, independence, functional status, life satisfaction, and overall QOL.

Spas, D.; Traci, M.; & Brennan, L. (2005) **Preventing and managing secondary conditions with adult Montanans who have intellectual/developmental disabilities: Health resource guide.** NARIC Accession Number: O16284. Project Number: H133B030501.

Abstract: Booklet lists the ten most commonly-reported secondary conditions among adults with developmental disabilities in Montana and provides helpful resources to address each problem. They are: (1) communication difficulties, (2) physical fitness and conditioning problems, (3) weight problems, (4) low level of persistence/low tolerance for frustration, (5) personal hygiene problems, (6) dental/oral hygiene problems, (7) vision problems, (8) memory problems, (9) fatigue, and (10) depression.

Potter, P.; Wolfe, D; Burkell, J.; Hayes, K. (2004) **Challenges in educating individuals with SCI to reduce secondary conditions.** *Topics in Spinal Cord Injury Rehabilitation*, 10(1), 30-40. NARIC Accession Number: J48018.

Abstract: Article describes challenges to providing effective patient and family education on the prevention of secondary conditions during inpatient rehabilitation from the perspective of the client with spinal cord injury and the health care provider. Primary challenges identified include those associated with: ensuring the readiness and relevance of information delivery for the client, the diverse nature of individual clients, the accessibility of services, and the difficulty of matching provider availability with the time the client is receptive.

Gordon, N., et al. (2004) **Physical activity and exercise recommendations for stroke survivors: An American Heart Association scientific statement from the Council on Clinical Cardiology, Subcommittee on Exercise, Cardiac Rehabilitation, and Prevention; the Council on Cardiovascular Nursing; the Council on Nutrition, Physical Activity, and Metabolism; and the Stroke Council.** *Circulation*, 109(16), 2031-2041. NARIC Accession Number: J49796. Project Number: H133B031127.

Abstract: Information and recommendations are presented for healthcare professionals who counsel stroke survivors on the value of exercise training and participation in physical activity. The following key points are addressed: poststroke sequelae and comorbid conditions, goals of physical rehabilitation, cardiorespiratory response to acute exercise, effects of exercise training and rehabilitation programs, the pre-exercise evaluation, recommendations for exercise programming, barriers to physical activity and exercise training, the importance of comprehensive stroke and cardiovascular disease risk reduction, and directions for future research.

**RehabWire**  
News from the National  
Rehabilitation Information  
Center

**Secondary Conditions**  
Volume 9, Number 10, December 2007



## NIDRR Grantees on the Cutting Edge

**Reducing Obesity and Obesity-Related Secondary Conditions in Adolescents with Disabilities** *University of Illinois at Chicago* (H133A060066) led by James H. Rimmer, PhD. Margaret Campbell, PhD, Project Officer.

Abstract: This project examines the antecedents and consequences of obesity using the International Classification of Function (ICF) framework that addresses both person and environment contextual factors that relate to obesity in adolescents with disabilities; evaluates the validity and utility of an alternative approach for establishing more accurate cutoff points for overweight and obesity in adolescents with disabilities; develops a pilot intervention using an innovative personalized exercise and nutrition program (PEP-for-Youth) for managing obesity among youth with physical and developmental disabilities; and develops mutually beneficial working partnerships with community-based organizations to promote reduction of obesity in youth with disabilities.

Find out more at: [www.rectech.org](http://www.rectech.org)

*The Model Systems research the spectrum of rehabilitation care from point of injury to long-term results post-injury. Several of these projects focus on secondary conditions:*

**The Rocky Mountain Regional Brain Injury System (RMRBIS)** *Craig Hospital* (H133A070022) led by Gale G. Whiteneck, PhD. Phillip Beatty, Project Officer.

Abstract: Research Project R2: A health and wellness intervention for individuals with TBI, evaluates a specific, replicable small-group educational approach to improve health-related self-efficacy, health promoting behaviors, and health-related quality of life in individuals with TBI using a randomized wait list control group study design. If effective, this intervention could improve the health and wellness of the many people with secondary conditions and less than healthy lifestyles after TBI.

Find out more at: [www.craighospital.org/Research/TBIModelSystems.asp](http://www.craighospital.org/Research/TBIModelSystems.asp)

**New York Traumatic Brain Injury Model System (NYTBIMS)** *Mount Sinai School of Medicine* (H133A070033) led by Wayne A. Gordon, PhD. Phillip Beatty, Project Officer.

Abstract: The research program of The New York Traumatic Brain Injury Model System (NYTBIMS) aims to advance the understanding of TBI and develop better methods of treating secondary conditions of TBI, especially fatigue, mood, cognition, and sleep disorders. Research goals of this project are to: (1) demonstrate and evaluate a multidisciplinary system of care for persons with TBI in the New York City metropolitan area, including a number of innovative clinical programs; (2) contribute longitudinal data to the National Database of the TBI Model Systems program; and (3) conduct one module and two local studies to: (a) systematically study sleep architecture, insomnia, and other types of

Healthy People 2010 describes *secondary conditions* as "medical, social, emotional, family, or community problems that a person with a primary disabling condition likely experiences." Healthy People 2010, Chapter 6

[www.healthypeople.gov/Document/HTML/Volume1/06Disability.htm](http://www.healthypeople.gov/Document/HTML/Volume1/06Disability.htm)

*Please note: These abstracts have been modified. Full, unedited abstracts, as well as any available REHABDATA citations, are available at [naric.com](http://naric.com).*

**Thousands of additional resources on these topics are available from NARIC's resource pages at [www.naric.com/public](http://www.naric.com/public)**

**Prevention of secondary conditions is a major focus of NIDRR's Health and Function Priority.**

sleep disorders after TBI, to better understand post-TBI fatigue; and (b) evaluate the effectiveness of exercise as a treatment of post-TBI fatigue, mood, and cognition.

Find out more at: [www.mssm.edu/tbicentral/nytbims/](http://www.mssm.edu/tbicentral/nytbims/)

**Texas Model Spinal Cord Injury System** *The Institute for Rehabilitation and Research (TIRR)* (H133N060003) led by Daniel Graves, PhD; William Donovan, MD. Theresa San Agustin, MD, Project Officer.

Abstract: The TMSICIS includes a site-specific research project that is designed to provide high level evidence of the efficacy of a novel treatment to prevent bladder complications. The project is a randomized, double blind placebo, controlled parallel groups investigation of the effects of Botulinum toxin A treatment of detrusor external sphincter dyssynergia (DESD) during early spinal cord injury. Find out more at: [www.texasmscis.org](http://www.texasmscis.org)

**National Capital Spinal Cord Injury Model System** *National Rehabilitation Hospital; MedStar Research Institute* (H133N060028) led by Suzanne L. Groah, MD. Kenneth D. Wood, PhD, Project Officer.

Abstract: The Center includes two site-specific and one modular project and describes a system of care that meets SCIMS priorities: Site Specific Project 1 is a Practice-Based Evidence (PBE) project specifically focused on pressure ulcer (PU) prevention for all individuals with SCI and/or disease during the acute and rehabilitative phases of care (to evolve to the community in later phases). In this project, researchers aim to utilize a PBE approach to augment evidence based practice while addressing a critical secondary complication for individuals with SCI. Site Specific Project 2 is an SCI Navigator pilot project that combines elements of Peer Mentoring and Patient Navigation to decrease the occurrence of PUs once the individual has returned to the community. In this project, an SCI Navigator assists people with newly-acquired SCI in the transition from inpatient rehabilitation to the community, within the framework of an, at times, dysfunctional healthcare system.

Find out more at: [www.sci-health.org](http://www.sci-health.org)

**Rehabilitation Research and Training Center on Spinal Cord Injury: Promoting Health and Preventing Complications through Exercise** *National Rehabilitation Hospital/MedStar Research Institute* (H133B031114) led by Suzanne L. Groah, MD. Thomas Corfman, Project Officer.

Abstract: This project systematically and comprehensively addresses the role and impact of physical activity in the prevention of secondary conditions in people with spinal cord injury (SCI). Initially, the project establishes critical, yet-undefined physiological responses to exercise in SCI and comprehensively examines cardiovascular disease risk in individuals with SCI applying accepted guidelines used in the able-bodied population. The project develops exercise formats specifically designed according to severity of SCI and chronicity of SCI to address the prevention of and knowledge regarding osteoporosis and other secondary conditions. In addition, the project determines whether regular exercise is related to fewer secondary conditions. These research findings feed into four training activities that include a peer mentoring program for newly injured people with SCI, a consumer-driven education curriculum for physical therapy and medical students, a state-of-science and training conference, and the development of a virtual resource network on exercise and prevention

Find out more at: [www.sci-health.org](http://www.sci-health.org)

**Rehabilitation Research and Training Center on Health and Wellness in Long Term Disability** *Oregon Health and Science University* (H133B040034) led by Gloria Krahn, PhD, MPH. Phillip Beatty, Project Officer.

Abstract: The vision of this RRTC is to contribute to the reduction of health disparities for person with



“*Secondary conditions*, a term accepted in the field of disability and public health around 1990, is an expansion of the medical/rehabilitation term, *co-morbidity*. *Co-morbidity* refers to the existence of additional *disease* after diagnosis of the primary disabling

condition. However, *secondary condition* adds three dimensions not fully captured by the term *co-morbidity*. It includes: 1) non-medical events e.g. isolation; 2) conditions that affect the general population e.g. obesity, but which more greatly affect people with a disabling condition; and 3) problems that arise any time during the lifespan e.g. inaccessible mammography. “

*Fact Sheet: Secondary Conditions: Children and Adults with Disabilities* Center for Disease Control

### Where Can I Find More?

A quick keyword search is all you need to connect to a wealth of disability and rehabilitation research. NARIC's databases hold more than 75,000 resources. Visit [www.naric.com/research](http://www.naric.com/research) to search for literature, current and past research projects, and organizations and agencies in the US and abroad.

### NIDRR Research in Secondary Conditions

Since 1988, NIDRR has funded more than 35 projects with a research focus on the prevention or remediation of secondary conditions. These have included research and training centers, model systems, field initiated projects, and innovative grants to small businesses.

disabilities through an integrated program of research, training, technical assistance, and dissemination. The Center has three inter-related strands of work to address its three intended outcomes/goals: (1) identify strategies to overcome barriers that impede access to routine healthcare for individuals with disabilities; (2) identify interventions in areas such as exercise, nutrition, pain management, or complementary and alternative therapies that promote health and wellness and minimize the occurrence of secondary conditions for persons with disabilities; and (3) develop improved status measurement tool(s) to assess health and well-being of individuals with disabilities regardless of functional ability. RRTC projects summarize and validate existing research findings on barriers to health care access as well as rigorously test and compare new strategies to overcoming identified barriers. The RRTC also examines and evaluates the practices of exemplary generic and specialized health promotion programs for people with disabilities in order to create an evidence-based set of evaluation and planning criteria. In addition, the RRTC organizes and uses panels to assess current health status measurement tools and develops or refines measures to more accurately reflect the health and well-being of people living with disabilities.

Find out more at: [www.healthwellness.org](http://www.healthwellness.org)

### Current Literature - Selections from REHABDATA

Nieuwenhuijsen, E.; Zemper, E.; Miner, K., & Epstein, M. (2006) **Health behavior change models and theories: Contributions to rehabilitation.** *Disability and Rehabilitation*, 28(5), 245-256.

NARIC Accession Number: J50408. Project Number: H133P030004; H133P990014.

Abstract: Literature review examines the importance of health behavior change (HBC) theory and its relevance to rehabilitation research and practice. The HBC concept is based on initiation and maintenance of healthy behaviors and functional activities, promotion of health and wellness, prevention of secondary health conditions, and self-management of chronic conditions or disabilities within an environmental context. Three theoretical models are presented to illustrate the efficacy of HBC practices in rehabilitation: the Health Belief Model, Social-Cognitive Theory, and the Transtheoretical Model. Three propositions are derived from examining these theories and models: (1) HBC variables should be used as outcome measures in evidence-based rehabilitation research, (2) rehabilitation providers should more consistently act as a facilitator in eliciting healthy behaviors, and (3) the HBC concept should be expanded into a more comprehensive view encompassing a person's functioning within the environmental context.

Seekins, T., et al. (2006) **Promoting health and preventing secondary conditions among adults with developmental disabilities.** In M. J. Field, A. M. Jette, and L. Martin (eds.), *Workshop on disability in America: A new look: Summary and background papers.* NARIC Accession Number: J50414. Project Number: H133B030501.

Abstract: Chapter presents a model for conducting research to address the health and wellness needs of people with disabilities. This approach involves contextually appropriate research based on a surveillance model for a targeted population. Relevant findings are presented from a series of studies assessing limitations due to secondary conditions, the associated risk and protective factors, and the use of medical services among adults with intellectual or developmental disabilities.

Carlin, M.; Garrity, J.; & Traci, M. (2006) **Living well under the big sky . . . Montana disability and health program: Strategic plan 2006-2010.** NARIC Accession Number: O16435. Project Number: H133B030501.

Abstract: Report describes the vision, mission, and goals of the Montana Disability and Health (MTDH) Program. The long-term outcome goals of the MTDH Program are to prevent secondary conditions, promote health, and reduce health disparities existing between Montanans with and without disabilities. In addition, 5 intermediate goals are outlined as supporting achievement of the long-term goals: (1)