

National Center for Medical Rehabilitation

1. Formed in 1990 by Public Law 101-613
2. Mission includes children and adults with physical disabilities.
3. Research interest in maintaining independence through device development.

Research Examples

- Italian Project
- Step Watch Monitor
- Enhancing Communication
- Patient Reported Outcomes Measure Information System

Italian Project

- Adaptive Physical Activity in a community setting for Stroke patients
- Preliminary results positive



StepWatch Activity Monitor

A Tool for Quantitative Assessment of
Long-Term Ambulatory Activity

Kim Coleman
President

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Some Areas in which the Step Watch is Used:

- Geriatrics
- Physical Therapy
- Orthopedics
- Bariatrics/Obesity
- General Population Studies
- Pediatrics
- Prosthetics & Orthotics
- Drug Studies
- Multiple Sclerosis
- Cerebral Palsy
- Behavioral Research
- Diabetes
- Sports Medicine
- Cardiology
- Exercise Physiology
- Exercise Interventions
- Preventative Medicine
- Total Joint Replacement
- Vocational Research
- Tissue Implant Studies
- Veterinary Medicine

Enhancing communication with a brain computer interface

<http://www.cbsnews.com/video/watch/?id=4564186n>

An NIH Roadmap for Medical Research Initiative: Patient-Reported Outcomes Measurement Information System (PROMIS™)

■ Introduction

- Researchers as part of the PROMIS™ initiative are developing new ways to measure patient-reported outcomes (PROs), such as pain, fatigue, physical functioning, emotional distress, and social role participation that have a major impact on quality-of-life across a variety of chronic diseases.

■ Purpose

- The goal of the PROMIS™ initiative is to improve the precision, expand the range and lessen the patient burden of assessing PROs.

■ Research Objectives - To create and develop:

- (a) a large bank of items (questions) measuring PROs employing state-of-the-art item response theory (IRT);
- (b) a computerized adaptive testing (CAT) system to administer these IRT-calibrated questions in a wide range of patients with chronic diseases; and
- (c) a publicly-available, adaptable system that both stores the questions and administers the CAT.

■ The Assessment Center is an

- Online, dynamic application that allows researchers to centralize all research activities that;
 - Permits instrument development, study administration, data management, and storage of statistical analysis results.
 - houses a library of instruments and items with an emphasis on health-related quality of life.

■ Status update

- Currently, twelve domains including global health
- PROMIS™ Assessment Center has 600 registered users, 161 study-specific websites created, and several studies currently accruing participants.

■ URLs

- <http://nihroadmap.nih.gov/clinicalresearch/overview-dynamicoutcomes.asp>
- <http://www.nihpromis.org>