


NIH Toolbox
Assessment of Neurological and Behavioral Function

NIH Toolbox Connection to Other Projects


Kevin P. Conway, Ph.D.



For more information, please visit www.nihtoolbox.org
Richard C. Gershon, PhD, PI gershon@northwestern.edu


This study is funded in whole or in part with Federal funds from the Blueprint for Neuroscience Research, National Institutes of Health under Contract No. HHS-N-260-2006-00007-C

NIH Toolbox and Related Projects



PROMIS 2004	NINDS Examiner 2005	
MRI Study 2001	NCS 2005	PhenX 2007
Neuro-OOL 2004	CTSA 2006	

The MRI Study of Normal Brain Development



- Development of a “normal” or baseline brain image of children and adolescents
 - Used to enhance understanding of normal
 - Improved diagnostic capacity
 - Eliminates or reduces need to recruit controls for comparative brain studies
 - Data available to scientific community starting July 2006
 - Principal Investigator: Alan Evans, Ph.D.
 - McGill University
 - Project Officer: Lisa Freund, Ph.D.
 - NICHD

The MRI Study of Normal Brain Development



- Study Design
 - Multi-Center
 - Six participating centers
 - Population-based
 - Target n = 500
 - Ages 7 days to 18 years
 - Standardized to 2000 U.S. population
 - Mixed Cross-Sectional and Longitudinal

The MRI Study of Normal Brain Development



- Measures:
 - CBCL
 - C-DISC-4
 - DPS-4
 - Woodcock-Johnson
 - WASI
 - WISC-III
 - Purdue Pegboard
 - CANTAB
 - FIGS-MRI
 - BRIEF
 - JTCI & TCI
 - Tanner Staging Questionnaire
 - WAIS-R
 - CVLT
 - NEPSY

PROMIS



- Patient Reported Outcomes Measurement Information System (PROMIS)
 - Mission: to build a computer-adaptive test database for gathering patient-reported outcomes across major chronic diseases.
 - Principal Investigator: David Cella, Ph.D.
 - NorthShore University HealthSystem
 - NIH Project Leader: Deborah Ader, Ph.D.
 - NIAMS

PROMIS



PROMIS Core Areas

- Physical Health
 - Physical Function
 - Sleep/Wake Function
 - Sexual Function
- Mental Health
 - Emotional Distress
 - Cognitive Function
- Social Health
 - Social Function
 - Social Support

NIH Toolbox Contains

- Motor & Sensory Measures
 - 13 motor
 - 23 sensory
 - 1 from PROMIS
- Emotion & Cognition Measures
 - 14 emotion
 - 4 from PROMIS
 - 13 cognition

Neuro-QOL



- Quality of Life in Neurological Disorders
 - Developed out of need for a group of standardized assessment instruments
 - Multi-site collaboration
 - Principal Investigator: David Cella, Ph.D.
 - Evanston Northwestern Healthcare
 - Project Officer: Claudia Scala-Moy, Ph.D.
 - NINDS

Neuro-QOL



- Neuro-QOL Areas:
 - Mobility/Ambulation
 - Depression
 - Anxiety
 - Stigma
 - Cognition
 - Social Role Performance
 - Social Role Satisfaction
 - Fatigue
 - Personality/Behavioral Change
- NIH Toolbox Contains
 - 12 Motor
 - 2 Affect
 - 2 Stress
 - 13 Cognition
 - 3 Social Relationship
 - 3 Endurance

National Children's Study (NCS)



- Prospective Cohort study from birth to adulthood, to evaluate the effects of both chronic and intermittent exposures on child health and human development
 - Lead Agency: NICHD
 - 27 starting hypotheses to be tested
 - Sample size = 100,000 recruited from 105 sites

National Children's Study (NCS)



- | | |
|----------------------------|-------------------------|
| • NCS Area of Interest: | • NIH Toolbox Contains: |
| • Omnibus IQ | • 3 Exec Functioning |
| • Executive function | • 2 Language |
| • Language / verbal skills | • 3 Visual |
| • Academic skills | • 3 Memory |
| • Visuospatial abilities | • 2 Attention |
| • Learning / memory | • 12 Motor skills |
| • Attention | • 4 Hearing |
| • Motor skills | |
| • Hearing | |

NINDS-Examiner



- Main Goals:
 - Develop a Standard Battery of Tasks for Specific Domains of Executive Function
 - Integrate Studies of Executive Function in Clinical Neurology Applications
 - NIH Toolbox contains 3 tests of executive function
- Multi-Site Project
 - Principal Investigator: Joel Kramer, Psy.D.
 - University of California, San Francisco
 - Project Officer: Emmeline Edwards, Ph.D.
 - NINDS

Clinical & Translational Science Awards (CTSA)



- Funded by the National Center for Research Resources
- Creates a “home” for clinical and translational research within academic institutions
 - Target of 60 institutions
 - Focus on bench to bedside
- CTSA institutions linked together as well as work with external agencies
 - VA, DoD, community hospitals, pharmaceutical companies

PhenX



- Three year project led by RTI International and funded by NHGRI to contribute to the integration of genetics and epidemiologic research
 - The PhenX Toolkit will be comprise of background information, standard operating procedures, common data elements, glossary of terms, and an outline of suggested protocols and methods for analyzing GWAS data
- Principal Investigator: Carol Hamilton, Ph.D.
 - RTI International
- Project Officer: Erin Ramos, Ph.D., M.P.H.
 - NHGRI

PhenX



- PhenX Domains include:
 - Aging
 - Functional Status
 - Quality of Life
 - Cognitive Measures
 - Psycho-Social
 - Anger
 - Stress
 - Attitudes
 - Physical Activity
 - Physical Fitness
 - Hand Strength
- NIH Toolbox contains:
 - 12 Motor Skills
 - 3 Social Relationship
 - 13 Cognitive
 - 1 Anger
 - 2 Stress
 - 3 Endurance
 - 1 Upper Strength



NIH Toolbox Connection to Other Projects

Kevin P. Conway, Ph.D.



For more information, please visit www.nihtoolbox.org
Richard C. Gershon, PhD, PI gershon@northwestern.edu

This study is funded in whole or in part with Federal funds from the Blueprint for Neuroscience Research, National Institutes of Health under Contract No. HHS-N-260-2006-00007-C
