

VAPHS RESEARCH

2011 ANNUAL REPORT



VAPHS Research Portfolio

Active Research Projects

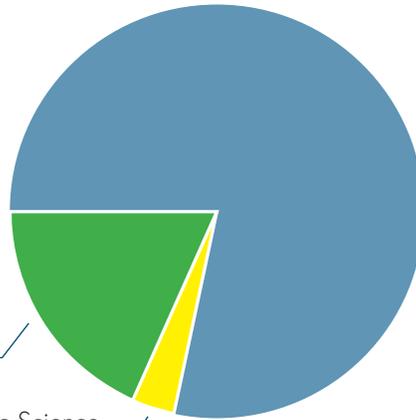
344
Total Projects

127
Active
Investigators

276 Human Subjects

50 Animal Subjects

18 Basic Science



VAPHS Research at a Glance

\$36,400,466
Total Research Expenditures
for FY 2011

\$12,486,427
Veterans Affairs

\$21,873,667
National Institutes of Health

\$1,316,628
Research Foundation

\$723,743
Other

6 New VA Funded Research Projects
for FY 2011

42 VA Projects Submitted for Funding
for FY 2011

10 Biomedical Laboratory Research
and Development

3 Clinical Science Research
and Development

4 Health Services Research
and Development

25 Rehabilitation Research and Development

2011 Research Publications

Oxidative Stress in Schizophrenia: Pathogenetic and Therapeutic Implications. Yao JK, Reddy R. *Antioxid Redox Signal.* 2011 Jan 2. [Epub ahead of print]

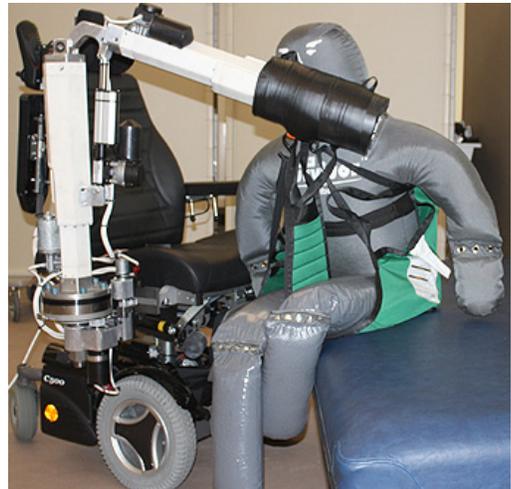
Social Perception and WAIS-IV Performance in Adolescents and Adults Diagnosed With Asperger's Syndrome and Autism. Holdnack J, Goldstein G, Drozdick L. *Assessment.* 2011 Jan 10. [Epub ahead of print]

Orthopedic communication about osteoarthritis treatment: Does patient race matter? Hausmann LR, Hanusa BH, Kresevic DM, Zickmund S, Ling BS, Gordon HS, Kwok CK, Mor MK, Hannon MJ, Cohen PZ, Grant R, Ibrahim SA. *Arthritis Care Research (Hoboken).* 2011 Jan 10. [Epub ahead of print]

Peptide-based inhibition of NF- κ B rescues diaphragm muscle contractile dysfunction in a murine model of Duchenne muscular dystrophy. Peterson JM, Kline W, Canan BD, Ricca DJ, Kaspar B, Delfin DA, Dirienzo K, Clemens PR, Robbins PD, Baldwin AS, Flood P, Kaumaya P, Frietas M, Kornegay JN, Mendell JR, Rafael-Fortney JA, Guttridge DC, Janssen PM. *Molecular Medicine.* 2011 Jan 20. [Epub ahead of print]

The Human Engineering Research Laboratories have furthered their research in 2011 with several projects:

- The testing and filing for patent disclosure of the Strong-Arm lifting and transfer assistant attachment for PerMMA (the Personal Mobility and Manipulation Assistant; a wheelchair with robotic arms). The Robotic Strong Arm (RSA) is a new machine used to aid in the transfers of people with disabilities to and from their electric powered wheelchair (EPW) onto other surfaces such as a bed, shower bench, toilet or another chair. The device can be used for both stand-pivot transfers, where the person has some ability to stand and places some weight on the ground or it can be used for fully dependent transfers, where the person being transferred is in a sling and weight is fully on the robot. The RSA is currently in the initial prototype phase. The device has been used with 185 pound transfer test dummies, in fully dependent transfer scenarios.
- The construction and testing of PerMMA Gen II wheelchair designed to climb curbs and maneuver slippery terrains
- The subject testing of the Virtual Seating Coach, a system built that helps power wheelchair users change their seating positions, in order to prevent pressure ulcers, manage pain, and ease swelling of the extremities (More information: www.herl.pitt.edu/virtual-seating-coach)



Noninferiority of functional outcome in ambulatory management of obstructive sleep apnea. Kuna ST, Gurubhagavatula I, Maislin G, Hin S, Hartwig KC, McCloskey S, Hachadoorian R, Hurley S, Gupta R, Staley B, Atwood CW. *American Journal of Respiratory and Critical Care Medicine.* 2011 May 1;183(9):1238-44. Epub 2011 Jan 21.

Incremental cost-effectiveness of various monthly doses of vardenafil. Aspinall SL, Smith KJ, Cunningham FE, Good CB. *Value Health.* 2011 Jan;14(1):97-101.

Managing suicide risk in patients with schizophrenia. Kasckow J, Felmet K, Zisook S. *CNS Drugs.* 2011 Feb 1;25(2):129-43.

Intervention to decrease glyburide use in elderly patients with renal insufficiency. Aspinall SL, Zhao X, Good CB, Stone RA, Borelli J, Cox S, Bartholomew C, Jansen D, Guterman S, Patino M, Rivera-Miranda G, Burlingame M, Frazer J, Sellers J, Starnard Steele V, Witt L, Cunningham FE. *American Journal of Geriatric Pharmacotherapy.* 2011 Feb;9(1):58-68.

Autonomic insufficiency in pupillary and cardiovascular systems in Parkinson's disease. Jain S, Siegle GJ, Gu C, Moore CG, Ivancic LS, Jennings JR, Steinhauer SR, Studenski S, Greenamyre JT. *Parkinsonism and Related Disorders.* 2011 Feb;17(2):119-22.

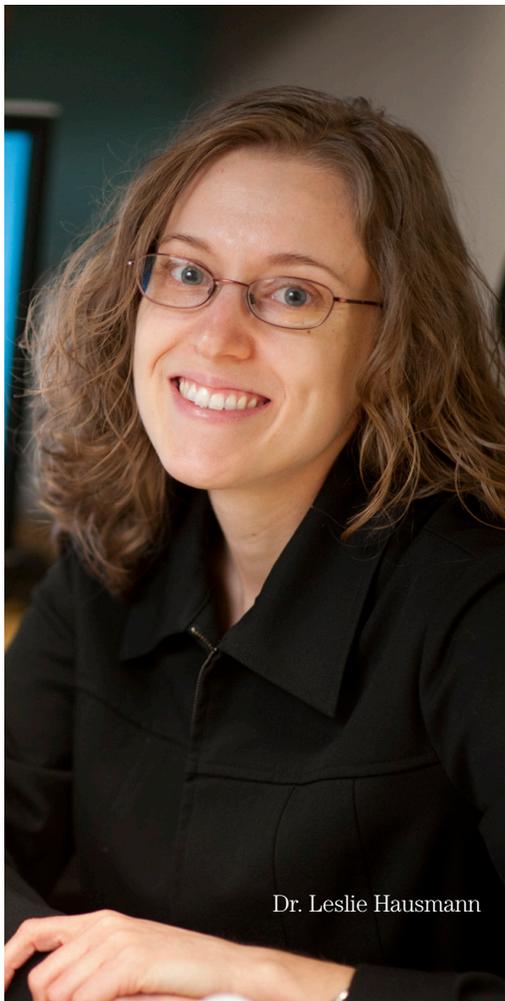
Lethal Forethought: Delayed Reward Discounting Differentiates High- and Low-Lethality Suicide Attempts in Old Age. Dombrowski AY, Szanto K, Siegle GJ, Wallace ML, Forman SD, Sahakian B, Reynolds CF 3rd, Clark L. *Biological Psychiatry.* 2011 Feb 15. [Epub ahead of print]

Modification of ubiquitin-C-terminal hydrolase-L1 by cyclopentenone prostaglandins exacerbates hypoxic injury. Hao Liu, Wenjin Li, Muzamil Ahmad, Tricia M. Miller, Marie E. Rose, Samuel M. Poloyac, Guy Uechi, Manimalha Balasubramani, Robert W. Hickey and Steven H. Graham. *Neurobiology of Disease* Volume 41, Issue 2, February 2011, Pages 318-328.

Dimensions of Perceived Racism and Self-Reported Health: Examination of Racial/Ethnic Differences and Potential Mediators. Brondolo E, Hausmann LR, Jhalani J, Pencille M, Atencio-Bacayon J, Kumar A, Kwok J, Ullah J, Roth A, Chen D, Crupi R, Schwartz J. *Annals of Behavior Medicine.* 2011 Mar 4. [Epub ahead of print]

CHERP

Center for Health Equity
Research and Promotion



Dr. Leslie Hausmann

The Center for Health Equity Research and Promotion (CHERP) continues to advance their mission to promote equity and quality in health and health care among Veterans. In FY11, CHERP investigators published 158 scientific manuscripts in peer-reviewed journals, published eight book chapters and made 131 presentations at national scientific meetings. CHERP research was also disseminated through major media outlets this year. For example, a report on ABC World News tonight on “Unconscious Racial Bias Shapes Whom We Trust” featured an interview with Dr. Leslie Hausmann and highlighted her paper on the “Impact of Perceived Discrimination in Healthcare on Patient-Provider Communication” published in *Medical Care*. This work was supported by the HSR&D study on “Joint Replacement Utilization Disparity: The Role of Communication,” led by Dr. Ibrahim former VAPHS investigator, now at the Philadelphia VAMC.

CHERP leaders responded to new opportunities to communicate the value of their research to VA leaders charged with ensuring the quality and equity of health care for millions of Veterans. CHERP investigators are also at the forefront of efforts to evaluate the impact of VA’s implementation of the patient-centered medical home primary care model and efforts to translate VA research findings into clinical practice.

Unraveling the Biologic Basis of Late-Onset Cytomegalovirus Disease in High-Risk Organ Transplant Recipients. Singh N. Transplantation. 2011 Mar 9. [Epub ahead of print]

The association of race, cultural factors, and health-related quality of life in persons with spinal cord injury. Myaskovsky L, Burkitt KH, Lichy AM, Ljungberg IH, Fyffe DC, Ozawa H, Switzer GE, Fine MJ, Boninger ML. Archives of Physical Medicine and Rehabilitation. 2011 Mar;92(3):441-8.

Investigation of factors associated with manual wheelchair mobility in persons with spinal cord injury. Oyster ML, Karmarkar AM, Patrick M, Read MS, Nicolini L, Boninger ML. Archives of Physical Medicine and Rehabilitation. 2011 Mar;92(3):484-90.

Reliability and validity analysis of the transfer assessment instrument. McClure LA, Boninger ML, Ozawa H, Koontz A. Archives of Physical Medicine and Rehabilitation. 2011 Mar;92(3):499-508.

Design and Development of a Lightweight, Durable, Adjustable Composite Backrest Mounting. Eun-Kyoung Hong, Jon Pearlman, Benjamin Salatin, Hongwu Wang, Hsin-Yi Liu, Rory A. Cooper, Todd Hargroder. Assistive Technology: The Official Journal of RESNA Volume 23, Issue 1, March 2011, Pages 24 - 35

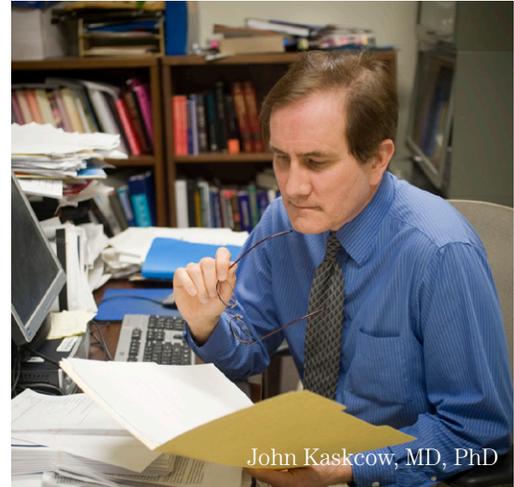
Common data elements in epilepsy research: Development and implementation of the NINDS epilepsy CDE project. Loring DW, Lowenstein DH, Barbaro NM, Fureman BE, Odenkirchen J, Jacobs MP, Austin JK, Dlugos DJ, French JA, Gaillard VVD, Hermann BP, Hesdorffer DC, Roper SN, Van Cott AC, Grinnon S, Stout A. Epilepsia. 2011 Mar 22. [Epub ahead of print]

Steady-state analysis of auditory evoked potentials over a wide range of stimulus repetition rates: Profile in adults. Tlumak AI, Durrant JD, Delgado RE, Boston JR. International Journal of Audiology. 2011 Mar 24. [Epub ahead of print]

Mucormycosis: its contemporary face and management strategies. Sun HY, Singh N. Lancet of Infectious Disease. 2011 Apr;11(4):301-11.

The Mental Illness Research, Education and Clinical Center (MIRECC) serves as a resource to all medical centers in VISN 4, and to the network of medical centers at the national level, on issues related to the treatment and prevention of comorbid medical, mental health and/or substance-use disorders. MIRECC's goal is to improve the mental and physical health, quality of life and outcomes of health care services for Veterans with mental illness. MIRECC researchers achieved significant accomplishments in 2011 including:

- John Kaskcow, MD, PhD, was interviewed by Psychiatry News regarding the new home-based telehealth monitoring system serving as an interface between suicidal patients and clinical staff. (psychnews.psychiatryonline.org/newsarticle.aspx?articleid=108645)
- Matt Chinman, PhD, received funding from VA Mental Health Quality Enhancement Research Initiative for MISSION-Vet HUD-VASH Implementation Study
- M. Lindsey Smith, PhD, MIRECC Post-doctoral fellow received a MIRECC Pilot award for her project, Concomitant Alcohol and Medication Use Among Older Veteran Adults.
- Gerald Goldstein, PhD was a contributing editor to Goldstein G, Incagnoli T, Puente AE (Eds.) Contemporary Neurobehavioral Syndromes. New York: Psychology Press, 2011. Dr. Goldstein also was given a Spotlight Award for Special Achievement at the American Psychological Association's 119th annual convention.



John Kaskcow, MD, PhD



Gerald Goldstein, PhD

User preferences for indicator and feedback modalities: A preliminary survey study for developing a coaching system to facilitate wheelchair power seat function usage. Liu H, Grindle G, Chuang F, Kelleher A, Cooper R, Siewiorek D, Smailagic A, Cooper R. *Pervasive Computing, IEEE*. 2011 Apr 7; Volume: PP, Issue:99.

Blood urea nitrogen in the early assessment of acute pancreatitis: an international validation study. Wu BU, Bakker OJ, Papatristou GI, Besselink MG, Repas K, van Santvoort HC, Muddana V, Singh VK, Whitcomb DC, Gooszen HG, Banks PA. *Archives of Internal Medicine*. 2011 Apr 11;171(7):669-76.

Differences in treatment attitudes between depressed african-american and caucasian veterans in primary care. Kaskcow J, Ingram E, Brown C, Tew JD, Conner KO, Morse JQ, Haas GL, Reynolds CF, Oslin DW. *Psychiatric Services*. 2011 Apr; 62(4):426-9.

Remission prognosis for cognitive therapy for recurrent depression using the pupil: utility and neural correlates. Siegle GJ, Steinhauer SR, Friedman ES, Thompson VWS, Thase ME. *Biological Psychiatry*. 2011 Apr 15;69(8):726-33.

Disparities in Risk Communication: A Pilot Study of Asthmatic Children, Their Parents, and Home Environments. Biksey T, Zickmund S, Wu F. *Journal of the National Medical Association*. 2011;103:388-391.

A 2010 working formulation for the standardization of definitions of infections in cardiothoracic transplant recipients. Husain S, Mooney ML, Danziger-Isakov L, Mattner F, Singh N, Avery R, Ison M, Humar A, Padera RF, Lawler LP, Fisher A, Drew RJ, Gould KF, Sole A, Studer S, Munoz P, Singer LG, Hannan M. *Journal of Heart Lung Transplant*. 2011 Apr;30(4):361-74.

Changes in antiepileptic drug choice for older veterans with new-onset epilepsy: 2002 to 2006. Pugh MJ, Tabares J, Finley E, Bollinger M, Tortorice K, Vancott AC. *Journal of the American Geriatrics Society*. 2011 May;59(5):955-6.

Robotic-Assisted Laparoscopic Side-to-Side Lateral Pancreaticojejunostomy. Eid GM, Entabi F, Watson AR, Zuckerbraun BS, Wilson MA. *Journal of Gastrointestinal Surgery*. 2011 Jul;15(7):1243. Epub 2011 May 17.

GRECC

Geriatric Research Education
and Clinical Center



One of the key missions of the Geriatric Research Education and Clinical Center's (GRECC) mission is to advance scientific knowledge regarding such needs and the methods of meeting those needs by facilitating a higher quality of geriatric care through:

- geriatric and gerontological research
- training of health personnel in the provision of health care to older individuals
- development and evaluation of improved models of clinical service for older Veterans.

GRECC research focuses on areas such as:

- neuronal cell death in stroke and neurodegenerative diseases
- hearing, communication disorders, and aphasia rehabilitation in stroke and aging
- mobility in the elderly
- polypharmacy
- pain assessment and treatment in the elderly
- barriers to delivery of care to the elderly
- stroke-related quality of life measures
- avoiding inappropriate prescribing and medication errors in long term care

Research Accomplishments:

- Number of Peer Reviewed Publications: 93
- Number of Extramurally Funded Research Projects: 54
- Total Research Expenditures Reported in RDIS: \$7,872,260
- Estimated VERA Research Funding for VAPHS generated by FY2011 research expenditures: \$3,197,000
- Merit Review Boards: 14 GRECC faculty served on 38 study sections/grant review committees
- Editorial Review Boards: 15 GRECC faculty served on 45 editorial review boards

Assessing Residents in Surgical Ethics: We Do It a Lot; We Only Know a Little. Brewster LP, Hall DE, Joehl RJ. *Journal of Surgical Research.* 2011 May 4. [Epub ahead of print]

Prevalence and demographic and clinical associations of health literacy in patients on maintenance hemodialysis. Green JA, Mor MK, Shields AM, Sevick MA, Palevsky PM, Fine MJ, Arnold RM, Weisbord SD. *Clinical Journal of the American Society of Nephrology.* 2011 Jun;6(6):1354-60. Epub 2011 May 5.

An expert review of the scientific literature on independent wheelchair transfers. Koontz A, Toro M, Kankipati P, Naber M, Cooper R. *Disability and Rehabilitation: Assistive Technology.* 2011 May 18. [Epub ahead of print]

Limitations on surrogate decision-making for emergent liver transplantation. Brewster LP, Palmatier J, Manley CJ, Hall DE, Brems JJ. *Journal of Surgical Research.* 2011 May 18. [Epub ahead of print]

Systemic delivery of NEMO binding domain/IKK γ inhibitory peptide to young mdx mice improves dystrophic skeletal muscle histopathology. Reay DP, Yang M, Watchko JF, Daoood M, O'Day TL, Rehman KK, Guttridge DC, Robbins PD, Clemens PR. *Neurobiology of Disease.* 2011 May 23. [Epub ahead of print]

Demographic Profile of Older Adults Using Wheeled Mobility Devices. Karmarkar A, Dicianno B, Cooper R, Collins D, Matthews J, Koontz A, Teodorski E, Cooper R. *Journal of Aging Research.* 2011 Jun 14 [Epub ahead of print]

Divine love and deep connections: a long-term followup of patients surviving cardiac surgery. Ai AL, Hall DE. *Journal of Aging Research.* Epub 2011 Jun 15.

Pupillary unrest correlates with arousal symptoms and motor signs in Parkinson disease. Jain S, Siegle GJ, Gu C, Moore CG, Ivancu LS, Studenski S, Greenamyre JT, Steinhauer SR. *Movement Disorders.* 2011 Jun;26(7):1344-7.

Opportunistic infection-associated immune reconstitution syndrome in transplant recipients. Sun HY, Singh N. *Clinical Infectious*

VAPHS Research Administration

Steven. H. Graham, MD, Ph.D., Associate Chief of Staff for Research and Development

Chandrashekhar Gandhi, Ph.D., Deputy Associate Chief of Staff for Research and Development

Nicholas Squeglia, Administrative Officer/Associate Chief of Staff for Research and Development

VAPHS Research Administration Staff

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Delirium, Dementia and Amnesia and other Cognitive Disorders. Gerald Goldstein. A chapter in the book of M. Hersen & DC Beidel (eds.) *Adult Psychopathology and Diagnosis*, Sixth Edition.

Design and development of a lightweight, durable, adjustable composite backrest mounting. Hong E; Pearlman J; Salatin B; Wang H; Liu H; Cooper R.; Hargroder T; *Assistive Technology*. 2011 March 4, Vol. 23, No. 1, pp. 24-35.

The effect of symptoms of carpal tunnel syndrome on ultrasonographic median nerve measures before and after wheelchair propulsion. Impink BG, Collinger JL, Boninger ML. *PM R*. 2011 Sep;3(9):803-10.

Development of custom measurement system for biomechanical evaluation of independent wheelchair transfers. Koontz, AM; Lin, Y; Kankipati, P; Boninger, ML; Cooper, RA. *Journal of Rehabilitation Research and Development* Volume 48 Number 8, 2011 Pages 1015-1028.

Autoimmune neuromuscular disorders. Kraker, J; Zivkovic, S. *Current Neuropharmacology*, Volume 9, Number 3, September 2011, pp. 400-408(9).

Upper limb kinetic analysis of three sitting pivot wheelchair transfer techniques. Koontz AM, Kankipati P, Lin YS, Cooper RA, Boninger ML. *Clinical Biomechanics* (Bristol, Avon). 2011 Nov;26(9):923-9

Use of prescription drug samples and patient assistance programs, and the role of doctor and patient communication. Gellad, WF; Huskam, HA; Li, A; Zhang Y; Safran DG; Donohue, JM. *Journal of General Internal Medicine*, v. 26, no. 12, Dec. 2011, p. 1458-1464.