

**BIOGRAPHICAL SKETCH**

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NAME Paul Kadane Crane, MD, MPH	POSITION TITLE Assistant Professor, Division of General Internal Medicine		
eRA COMMONS USER NAME pcrane			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Williams College, Williamstown, MA	BA <i>summa cum laude</i>	1993	English and History
University of Washington School of Medicine	MD	1997	Medicine
American Board of Internal Medicine	Diplomate	2000	Internal Medicine
University of Washington School of Public Health and Community Medicine	MPH	2003	Health Services

**A. Positions and Honors****Positions**

1997-1998	Internship, Department of Internal Medicine, University of Washington Affiliated Hospitals
1998-2000	Junior and Senior Resident, Department of Primary Care Internal Medicine, Barnes-Jewish Hospital and Medical Center
2000-2001	Fellow, Division of Health Behavior Research, Washington University School of Medicine
2000-2001	Hospitalist, Vencor Hospital, St. Louis, Department of Medicine
2001-2003	NRSA General Internal Medicine Fellow, University of Washington
2003-2005	Acting Instructor, Division of General Internal Medicine, Department of Internal Medicine, University of Washington
2005-present	Assistant Professor, Division of General Internal Medicine, Department of Internal Medicine, University of Washington

**Honors**

1989	Paul Fowler Fellowship as one of top 6 graduating high school seniors in Washington State
1989	Robert C. Byrd Honors Fellowship
1989-1993	Dean's List, Williams College, every semester
1992	Phi Beta Kappa, Williams College, junior year inductee
1992-1993	Class of 1960 Scholar, Departments of English and History, Williams College
1993	Graduation with Highest Honors in English Literature and Honors in History, Williams College
1993	Edward Gould Shumway class of 1860 Prize for Most Distinguished Work in English Literature, Williams College
1998	Third Place, Missouri Chapter, American College of Physicians Resident Poster Competition
2005	New Investigator Award, International Society for Quality of Life Research, for "an outstanding paper presentation entitled 'Rapid detection of differential item functioning (DIF) in assessments of health related quality of life (HRQL): the Functional Assessment of Cancer Therapy'"

**B. Publications**

1. Crane PK, Larson EB. What is mild cognitive impairment? Defining, diagnosing, and managing prodromal dementia. *Women Health Primary Care* 2003; 6: 201-209.
2. Crane PK, Jolley L, van Belle G (2003). DIFdetect. (Differential item functioning detection software, published on the National Alzheimer's Coordinating Center [NACC] website January, 2003.)  
[www.alz.washington.edu/DIFDETECT/welcome.html](http://www.alz.washington.edu/DIFDETECT/welcome.html).

3. Shen J, Crane P, Gao S. A latent variable model approach for assembling and scoring screening tests for dementia. *J Alzheimers Dis*. 2003 Oct;5(5):399-407.
4. Crane PK, van Belle G, Larson EB. Test bias in a cognitive test: differential item functioning in the CASI. *Stat Med* 2004; 23: 241-256.
5. Arterburn D, Crane PK, Veenstra D. The efficacy and safety of sibutramine for weight loss: a systematic review. *Arch Intern Med* 2004;164:994-1003.
6. Arterburn D, Crane P, Sullivan S. The coming epidemic of obesity in the elderly. *J Am Geriatrics Soc* 2004; 52: 1907-1912.
7. Wang L, van Belle G, Crane PK, Kukull WA, Bowen JD, McCormick WC, Larson EB. Subjective memory deterioration and future dementia in people aged 65 years and over. *J Am Geriatrics Soc* 2004; 52: 2045-51
8. Mungas D, Reed BR, Crane PK, Haan MN, Gonzales H. Spanish and English neuropsychological assessment scales (SENAS): further development and psychometric characteristics. *Psych Assess* 2004; 16:347-59.
9. Von Korff M, Crane P, Lane M, Miglioretti D, Simon G, Saunders K, Stang P, Brandenburg N, Kessler R. Chronic spinal pain and physical-mental comorbidity in the United States: results from the National Comorbidity Survey Replication. *Pain* 2005: 113:331-9.
10. Larson EB, Wang L, Bowen JD, McCormick WC, Teri L, Crane P, Kukull W. Exercise is associated with reduced risk for incident dementia among persons 65 years of age and older. *Ann Int Medicine* 2006: 144: 73-81.
11. Crane PK, Gibbons LE, Jolley L, van Belle G. DIF analysis with ordinal logistic regression techniques: DIFdetect and difwithpar. *Med Care* 2006; 44(11 Supp 3): S115-S123.
12. Crane HM, Kadane JB, Crane PK, Kitahata MM. Diabetes case identification methods applied to electronic medical record systems: their use in HIV infected patients. *Curr HIV Res* 2006: 4:97-106.
13. Hart DL, Cook KF, Mioduski JE, Teal CR, Crane PK. Simulated computerized adaptive test for patients with shoulder impairments was efficient and produced valid measures of function. *J Clin Epidemiol* 2006 Mar;59(3):290-298.
14. Crane PK, Hart DL, Gibbons LE, Cook KF. A 37-item shoulder functional status item pool had negligible differential item functioning. *J Clin Epidemiol* 2006 May; 59(5):478-84.
15. Crane PK, Gibbons LE, Jolley L, van Belle G, Selleri R, Dalmonte E, De Ronchi D. Differential item functioning related to education and age in the Italian version of the Mini-Mental State Examination. *Int Psychogeriatrics* 2006; 18:505-515.
16. Simon G, Von Korff M, Saunders K, Miglioretti DL, Crane PK, van Belle G, Kessler R. Association between obesity and psychiatric disorders in the US adult population. *Arch Gen Psychiatr* 2006; 63: 824-30.
17. Crane PK. Commentary on comparing translations of the EORTC QLQ-C30 using differential item functioning analyses. *Qual Life Res* 2006; 15: 1117-1118.
18. Lai JS, Crane PK, Cella D. Factor analysis techniques for assessing essential unidimensionality of cancer related fatigue. *Qual Life Res* 2006; 15: 1179-1190.
19. Crane PK, Crane HM. Indwelling intravenous catheter-associated *Bacillus cereus* sepsis in an immunocompetent patient. *Infect Med* 2007; 24: 40-42.
20. Crane PK, Gibbons L, Narasimhalu K, Lai J-S, Cella D. Rapid detection of differential item functioning in assessments of health-related quality of life: the Functional Assessment of Cancer Therapy. *Qual Life Res* 2007; 16(1): 101-14.
21. Crane HM, Lober W, Webster E, Harrington RD, Crane PK, Davis TE, Kitahata MM. Routine collection of patient-reported outcomes in an HIV clinic setting: the first 100 patients. *Curr HIV Res* 2007; 5: 109-118.

22. Rabin LA, Borgos MJ, Saykin AJ, Wishart HA, Crane PK, Nutter-Upham KE, Flashman LA. Judgment in older adults: development and psychometric evaluation of the Test of Practical Judgment. *J Clin Exp Neuropsychology* (in press 2006).
23. Reeve BB, Hays RD, Bjorner JB, Cook KF, Crane PK, Teresi JA, Thissen D, Revicki DA, Weiss DJ, Hambleton RK, Liu H, Gershon R, Reise SP, Cella D. Psychometric evaluation and calibration of health-related quality of life item banks: plans for the Patient-Reported Outcome Measurement Information System (PROMIS). *Med Care* 2007; 45(5 Suppl 1): S22-31.
24. Teresi J, Ocepek-Welikson K, Kleinman M, Cook K, Crane P, Gibbons L, Morales L, Orlando M, Cella D. Evaluating measurement equivalence using the item response theory log-likelihood ratio (IRTLR) method to assess differential item functioning (DIF): applications (with illustrations) to measures of physical functioning ability and general distress. *Qual Life Res* 2007; 16 Suppl 1: 43-68.
25. Crane PK, Gibbons LE, Ocepek-Welikson K, Cook K, Cella D, Narasimhalu K, Hays R, Teresi J. A comparison of three sets of criteria for determining the presence of differential item functioning using ordinal logistic regression. *Qual Life Res* 2007; 16 Suppl 1: 69-84.
26. Cook KF, Teal CR, Bjorner JB, Cella D, Chang C-H, Crane PK, Gibbons L, Hays RD, McHorney CA, Ocepek-Welikson K, Raczek AE, Teresi JA, Reeve BB. IRT health outcomes data analysis project: an overview and summary. *Qual Life Res* 2007; 16 Suppl 1: 121-32.
27. Crane PK, Cetin K, Cook KF, Johnson K, Deyo R, Amtmann D. Differential item functioning impact in a modified version of the Roland-Morris Disability Questionnaire. *Qual Life Res* 2007; 16:981-90.
28. Crane PK, Narasimhalu K, Gibbons LE, Pedraza O, Mehta K, Tang Y, Manly JJ, Jones RN, Reed BR, Mungas DM. The impact of accounting for differential item functioning on the relationship between executive functioning and brain white matter hyperintensities. *J Int Neuropsych Soc* (in press 2007).
29. Li G, Rhew IC, Shofer JB, Kukull WA, Breitner JCS, Peskind E, Bowen JD, McCormick W, Teri L, Crane PK, Larson EB. Age-varying association between blood pressure and risk of dementia in those aged 65 and older: a community-based prospective cohort study. *J Am Geriatrics Soc* 2007; 55: 1161-7.
30. Pierce B, Austin MA, Crane PK, Retzlaff BM, Fish B, Hutter CM, Leonetti DL, Fujimoto WY. Measuring dietary acculturation in Japanese Americans using confirmatory factor analysis of food frequency data. *Am J Clin Nutr* 2007; 86: 496-503.
31. Sonnen JA, Larson EB, Crane PK, Haneuse S, Li G, Schellenberg GD, Craft S, Leverenz JB, Montine TJ. Pathologic correlates of dementia in a longitudinal population-based sample of aging. *Ann Neurol* (in press 2007).
32. Von Korff M, Crane PK, Ormel J, Alonso J, Angermeyer MC, Bruffaerts R, de Girolamo G, Gureje O, de Graaf R, Huang Y, Iwata N, Karam EG, Kovess V, Lara C, Levinson D, Posada-Villa J, Scott KM, Vilagut G. Psychometric Evaluation of the World Mental Health version of the WHO Disability Assessment Schedule (WHODAS II). *J Clin Epidemiol* (in press 2007).
33. Crane PK, Narasimhalu K, Gibbons LE, Mungas DM, Haneuse S, Larson EB, Kuller L, Hall K, van Belle G. Co-calibration of tests of global cognition and improved measurement of change in cognitive functioning over time using item response theory. *J Clin Epidemiol* (in press 2007).
34. Gray SL, Anderson ML, Crane PK, Breitner JCS, McCormick W, Bowen JD, Teri L, Larson E. Antioxidant supplement use and risk of dementia or Alzheimer's disease in older adults. *J Am Geriatr Soc* (in press 2007).

## C. Research Support

### Ongoing Research Support

Investigator Initiated Research Grant (Crane, Principal Investigator) 12/01/2004 – 11/30/2007  
Alzheimer's Association  
Acculturation and AD Risk among Japanese and Japanese-American Elderly

Principal Investigator/Program Director (Last, First, Middle):

The major goals for this project are to develop a scoring metric for acculturation data collected in three linked epidemiological studies of dementia in Japanese and Japanese-American elderly, to determine whether cognitive tests used in these studies have differential item functioning due to acculturation to Western society, and to determine whether acculturation to Western society is a risk factor for dementia.

R01 MH069864-01 (Von Korff, Principal Investigator) 07/01/2006 – 12/31/2007  
NIH /NIMH

Social Role Disability and Mental-Physical Co-Morbidity

The major goals of this project are to examine data from the World Mental Health Surveys regarding the co-existence of mental disorders with physical disorders, and the combined impact of these disorders on disability.

Role: Co-Investigator, PI of UW subcontract

U01 AG006781-17A1 (Larson, Principal Investigator) 07/01/2006 – 03/31/2009  
NIH /NIA

Alzheimer's Disease Patient Registry (ADPR)

The major goals of this project are to determine cardiovascular and pharmacologic risk factors for Alzheimer disease in a community-based epidemiological study.

Role: Co-Investigator, PI of UW subcontract.

R01 AG024180-01A2 (Craft, Principal Investigator) 07/01/2006 – 11/30/2010  
NIH / NIA

MCI, Insulin, and Cholesterol in a Community Sample

The major goals for this project are to determine the incidence and progression of mild cognitive impairment (MCI) in a community-based cohort of older adults, and to examine its relationship to specific cardiovascular risk factors.

Role: Co-Investigator.

R01 AG 029672-01A1 (Crane, Principal Investigator) 09/01/2007 – 08/31/2012  
NIH/NIA

Improving cognitive outcome precision & responsiveness with modern psychometrics

The major goals of this secondary data analysis project are to examine psychometric data from the Alzheimer's Disease Neuroimaging Initiative (ADNI) and the Subcortical Ischemic Vascular Dementia Program Project Grant to compare and contrast psychometric approaches to the data, using neuroimaging and disease progression as validation tools.

### **Completed research support**

Young Investigator Research Grant (Crane, Principal Investigator) 09/01/2003 – 08/31/2004  
Alzheimer's Association

Improving screening tests for dementia

The major goals for this project were to co-calibrate screening tests for dementia from three large epidemiological studies and use modern psychometric theory to determine an optimal subset of those items for screening for dementia.

K08 AG 022232 (Crane, Principal Investigator) 07/01/2003 – 06/30/2006  
NIH/NIA

Improving Cognitive Tests with Modern Psychometrics

The major goals of this project were to develop an item bank of cognitive testing items using item response theory, and then to combine items from the bank into novel tests for a number of important purposes.