

# AMY J. GRAVES

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- EDUCATION**
- SM, *Biostatistics*  
Harvard School of Public Health, Boston, MA May 2012  
Master's Thesis: "Bayesian zero-inflated and general mixture models for clustered count data and an application to health services research". Committee Members: Paul Catalano, Ph.D., Ken Kleinman, Sc.D., and David Wypij, Ph.D.
- MPH, *Epidemiology*  
Tulane School of Public Health, New Orleans, LA December 2004
- BA, *International Studies*  
Univeristy of the South, Sewanee, TN May 2002
- COMPUTER SKILLS**
- Statistical Software:* SAS (8 years), Stata (5 years), R (4 years)  
*Computing platforms:* Windows (13 years), Mac (5 years), Linux (2 years)  
*Document preparation systems:* MS Office Suite (13 years), LaTeX (3 years), Sweave (1 year)  
*Reference management systems:* Zotero (5 years), EndNote (6 years), BibTeX (2 years)
- EXPERIENCE**
- Department of Biostatistics Nashville, TN  
Vanderbilt University School of Medicine  
*Biostatistician II* October 2011 - present
- Create and maintain programs for data management and variable creation
  - Carry out analyses planned by investigators using the R statistical programming language
  - Create reproducible statistical reports containing analysis results, graphics, figures, and descriptions of each using LaTeX/Sweave
  - Present statistical reports and explain statistics in meetings with collaborators
  - Edit statistical sections of manuscripts and posters
  - Statistical Methods Used:
    - Nonparametric methods (Wilcoxon rank-sum, Kruskal-Wallis)
    - Redundancy analysis
    - Linear and Generalized Linear Models
    - Analysis of Covariance (ANCOVA) models using linear regression
    - Cox proportional hazards survival models and Kaplan-Meier curves
    - Generalized Estimating Equations models
    - Generalized Least Squares models
    - Multiple imputation of missing values
    - Restricted cubic splines for continuous covariates
    - Propensity score regression adjustment
    - Robust covariance

- Bootstrapping methods for inference (confidence intervals)
- Residual plots to check for model appropriateness
- Accounting for multiple comparisons: Familywise Error Rate (Bonferroni) and False Discovery Rate (Benjamini-Yekutieli for correlated data)
- Sensitivity and Specificity calculations for covariate values derived from logistic regression models
- Discrimination (Harrell's C) and Calibration plots for logistic regression and Cox proportional hazards models

Department of Population Medicine  
 Harvard Pilgrim Health Care Institute  
*Programmer/Analyst II*  
*Research Associate II*  
*Research Associate I*

Boston, MA

October 2009 - February 2011

April 2008 - October 2009

August 2006 - April 2008

- Performed statistical analyses and created graphical presentations using SAS, Stata, and R for large-scale drug policy research projects directed by Harvard Medical School faculty
- Applied longitudinal analysis methods, including interrupted time series, survival, and difference-in-difference analyses
- Created and debugged algorithms to define study populations, outcomes, and covariates of interest
- Automated repetitive programming procedures and documented programs for ease of transition between analysts
- Presented programming and statistical techniques to analyst colleagues and PhD fellows

Health Research & Analysis, LLC  
*Research Associate*

Rockville, MD

January 2005 - July 2006

- Transformed and analyzed large military claims data sets using SAS for multiple studies conducted by research faculty at the Uniformed Services University of the Health Sciences
- Designed analytical approaches for research studies including a survival analysis of Gulf War veteran mortality and a case-control study of motor vehicle crashes and prescription medication use among military personnel
- Wrote sections of grants, manuscripts, and reports
- Compiled a systematic literature review of prescription medication and adverse motor vehicle outcomes for the Centers for Disease Control and Prevention

Children's Hospital  
*Evaluation Assistant*

New Orleans, LA

August 2004 - December 2004

- Analyzed a behavioral intervention for HIVpositive women by assessing change in survey-based behavioral and biological indicators
- Wrote an evaluation report summarizing analysis findings

Tulane School of Public Health Epidemiology Department  
*Research Assistant,*

New Orleans, LA

July 2003 - May 2004

- Analyzed sensitivity and specificity of study-based microscope diagnosis compared to clinic-based Papanicolau diagnosis of trichomonas vaginalis

- Coordinated clinical research and trained newly hired staff, counseled individuals positive for trichomonas vaginalis, obtained informed consent, enrolled individuals into the clinical trial, collected survey data using computer-assisted self interview (CASI) software, and assigned a randomized intervention according to protocol

## PUBLICATIONS

- Wharam JF, **Graves AJ**, Zhang F, Soumerai SB, Ross-Degnan D, Landon BE. Two-year trends in cancer screening among low socioeconomic status women in an HMO-based high-deductible health plan. *J Gen Intern Med.* 2012 Sep;27(9):1112-9.
- Nekhlyudov L, Madden J, **Graves AJ**, Zhang F, Soumerai SB, Ross-Degnan D. Cost-related medication nonadherence and cost-saving strategies used by elderly Medicare cancer survivors. *J Cancer Surviv.* 2011 Jul 29.
- Wharam JF, **Graves AJ**, Landon BE, Zhang F, Soumerai SB, Ross-Degnan D. Two-year trends in colorectal cancer screening after switch to a high-deductible health plan. *Med Care.* 2011 May 13.
- Wagner AK, **Graves AJ**, Reiss SK, LeCates R, Zhang F, Ross-Degnan D. Access to care and medicines, burden of health care expenditures, and risk protection: Results from the World Health Survey. *Health Policy.* 2011 May;100(2-3):151-8.
- Kozhimannil KB, Huskamp HA, **Graves AJ**, Soumerai SB, Ross-Degnan D, Wharam JF. High-deductible health plans and costs and utilization of maternity care. *Am J Manag Care.* 2011 Jan;17(1):e17-25.
- Lu CY, Law MR, Soumerai SB, **Graves AJ**, LeCates RF, Zhang F, Ross-Degnan D, Adams AS. Impact of prior authorization on the use and costs of lipid-lowering medications among Michigan and Indiana dual enrollees in Medicaid and Medicare: results of a longitudinal, population-based study. *Clin Ther.* 2011 Jan;33(1):135-44.
- Law MR, Lu CY, Soumerai SB, **Graves AJ**, LeCates RF, Zhang F, Ross-Degnan D, Adams AS. Impact of two Medicaid prior-authorization policies on antihypertensive use and costs among Michigan and Indiana residents dually enrolled in Medicaid and Medicare: results of a longitudinal, population-based study. *Clin Ther.* 2010 Apr;32(4):729-41; discussion 716.
- Zivin K, Madden JM, **Graves AJ**, Zhang F, Soumerai SB. Cost-related Medication Nonadherence among Beneficiaries with Depression Following Medicare Part D. *Am J Geriatr Psychiatry.* 2009 Dec;17(12):1068-76.
- Madden JM, **Graves AJ**, Ross-Degnan D, Briesacher BA, Soumerai SB. Cost-related Medication Nonadherence after Implementation of Medicare Part D, 2006-2007. *JAMA.* 2009 Oct 28;302(16):1755-6.
- Adams AS, Zhang F, LeCates RF, **Graves AJ**, Ross-Degnan D, Gilden D, McLaughlin TJ, Lu C, Trinacty CM, Soumerai SB. Prior Authorization for Antidepressants in Medicaid: Effects Among Disabled Dual Enrollees. *Arch Intern Med.* 2009 Apr 27; 169(8):750-6.

- Wagner AK, Valera M, **Graves AJ**, Lavina S, Ross-Degnan D. Costs of Hospital Care for Hypertension in an Insured Population Without an Outpatient Medicines Benefit: An Observational Study in the Philippines. *BMC Health Serv Res.* 2008 Jul 29; 8:161-8.
- Madden JM, **Graves AJ**, Zhang F, Adams AS, Briesacher BA, Ross-Degnan D, Gurwitz, JH, Pierre-Jacques M, Safran DG, Adler GS, Soumerai SB. Cost-related Medication Nonadherence and Spending on Basic Needs Following Implementation of Medicare Part D. *JAMA.* 2008 Apr 23; 299(16):1922-8.
- Gackstetter G, Hooper T, DeBakey S, **Johnson A**, Nagaraj B, Heller J, Kang H. Fatal Motor Vehicle Crashes among Veterans of the Gulf War and Exposure to Munitions Demolitions at Khamisiyah: A Nested Case Control Study. *Am J Ind Med.* 2006 Mar; 49(4):261-70.

#### **PRESENTATIONS**

- "Do high deductible health plans affect inpatient hospital procedure utilization?", Department of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute Brown Bag, Boston, MA, November 1, 2012
- "Impact of high deductible health plans on inpatient hospital procedure utilization", AcademyHealth Conference Panel Session, Orlando, FL, June 24, 2012

#### **INTERNATIONAL WORK EXPERIENCE**

- International Network for the Rational Use of Drugs - Initiative on Adherence to Antiretrovirals (INRUD-IAA) Data Analysis Workshop, Lake Elementaita, Kenya, July 5 - 9, 2010. Assisted four country-specific groups (Kenya, Rwanda, Tanzania, and Uganda) with data cleaning, creation of analytic data sets, and data analysis using Stata software

#### **MEMBERSHIPS**

- AcademyHealth, 2011 - present
- Boston Area SAS Users Group, 2008-2011

#### **HONORS**

- Graduation with Honors, University of the South, May 2002
- Order of the Gownsmen (academic honor society), University of the South
- Honor Council, University of the South, 1999-2000 and 2001-2002