

Carolyn M. Rutter, PhD
Group Health Research Institute
1730 Minor Ave, Suite 1600
Seattle, WA 98101

Phone: 206-287-2190
Fax: 206-287-2017
Email: rutter.c@ghc.org

Education

University of California, Los Angeles, B.S. Applied Mathematics, 1986
University of California, Los Angeles, M.S. Biostatistics, 1988
University of California, Los Angeles, Ph.D. Biostatistics, 1991

Professional Positions

1988-1989 Assistant Statistician, University of California School of Dentistry
1989-1991 Assistant Statistician, University of California School of Public Health
1990-1991 Special Reader
Department of Biostatistics, UCLA School of Public Health
1991-1992 Senior Statistician
Department of Biomathematics, UCLA School of Medicine
1992-1994 Research Fellow
Department of Health Care Policy, Harvard Medical School
1995-2002 Assistant Investigator
Group Health Center for Health Studies
1995-2002 Affiliate Assistant Professor
Department of Biostatistics, University of Washington
2002-2008 Associate Investigator
Group Health Center for Health Studies
2003-2008 Lead Biostatistician, Center for Health Studies Biostatistics Group
2002-2009 Affiliate Associate Professor
Departments of Biostatistics & Health Services, University of Washington
2008-present Senior Investigator
Group Health Research Institute (formerly Group Health Center for Health Studies)
2009-present Affiliate Professor
Departments of Biostatistics & Health Services, University of Washington

Honors and Awards

1990 Ruth F. Richards Outstanding Student Award,
UCLA School of Public Health Alumni Association
2010 Fellow, American Statistical Association

Professional Societies

American Statistical Association, International Biometrics Society (Western Division)

Professional Activities

Current Reviewer (2010): *Academic Radiology*, *AHRQ: CHOICE RFA grant review (ad hoc, April 2010)*, *Annals of Applied Statistics*, *Biometrics*, *Cancer Epidemiology, Biomarkers and Prevention*, *Health Services and Outcomes Research*, *Operations Research*, *Pharmacoeconomics*, *Statistical Modeling*, *Statistics in Medicine*
Editorial Board: *Medical Decision Making*

Past reviewer for:

- *AHRQ: Health Care Quality and Effectiveness Research Study Section (2005-2009)*
- *Academic Radiology (2000,2004,2005,2009)*
- *American Journal of Epidemiology (2002)*
- *Biometrics (2000,2003)*
- *Cancer Epidemiology, Biomarkers and Prevention (2006-2008)*
- *Centers for Disease Control Peer Review Panel on Breast and Colorectal Cancer Screening (2008)*
- *Circulation (2004,2005)*
- *Computational Statistics and Data Analysis (2004,2005)*
- *Journal of the American Medical Association (JAMA, 2003,2006,2009)*
- *Journal of Clinical Epidemiology (2003)*
- *Journal of General Internal Medicine (2006,2007,2009)*
- *Journal of the National Cancer Institute(JNCI, 2006,2007)*
- *Journal of the Royal Statistics Society – A (2008)*
- *Journal of the Royal Statistics Society – C (2006,2007)*
- *Journal of Statistical Planning and Inference (2001)*
- *Medical Decision Making (2006,2007)*
- *National Institutes of Health:*
 - *ad hoc grant review for Biostatistical Methods and Research Design (BMRD, 2006-2008)*
 - *ad hoc reviewer, NIMH (2002-2004)*
 - *program project review/ site visitor (2001,2002)*
- *Mayo Clinic Proceedings (2009)*
- *Pharmacoeconomics (2003-2005)*
- *Statistics in Medicine (2000-2009)*
- *Value in Health (2000,2001)*
- *Social Science in Medicine (2001)*

Invited participant: American Cancer Society Workshop on Interpretive Skills in Mammography. June 11-13, 1999.

Publications Officer for the Health Policy Statistics Section of the *American Statistical Association*, January 1999 –October 2003.

Planning committee for 2001: International Conference on Health Policy Research.

Co-Chair, planning committee for 2003 International Conference on Health Policy Research.

Chair for the Health Policy Statistics Section of the *American Statistical Association*, January 2005 –December 2005 (Chair-Elect 2004, Past Chair 2006).

Member of the Health Care Quality and Effectiveness Research study section of the Agency for Healthcare Research and Quality (October 2006 – September 2009).

Executive Committee for the 2008 International Conference on Health Policy Statistics.

Organizing Committee: RSNA/NIBIB Workshop on Comparative Effectiveness Research for Diagnostic Imaging, February 11-12, 2010.

Program Chair, WNAR 2010 Meetings (Seattle, WA).

Member, Conference Advisory Committee for the International Biometrics Society, 2010-2013

Articles in Peer Reviewed Journals

1. Golding JM, Karno M, **Rutter CM**. Symptoms of major depression among Mexican-Americans and non-Hispanic whites, *American Journal of Psychiatry*, 1990; 147(7):861-866.
2. Aneshensel CS, **Rutter CM**, Lachenbruch PA. Social structure, stress, and mental health: competing conceptual and analytic models, *American Sociological Review*, 1991; 56:166-178.
3. **Rutter C**, Flack V, Lachenbruch P. Bias in error rate estimates in discriminant analysis when stepwise variable selection is employed, *Communications in Statistics-Simulation and Computation*, 1991; 20:1-22.
4. Sorenson SB, **Rutter CM**, Aneshensel CS. Depression in the community: an investigation into age of onset. *Journal of Consulting and Clinical Psychology*, 1991; 59(4):541-546.
5. Sorenson SB, **Rutter CM**. Transgenerational patterns of suicide attempt, *Journal of Consulting and Clinical Psychology*, 1991; 59(6):861-866.
6. **Rutter CM**, Elashoff RM. Analysis of longitudinal data: random coefficient regression modelling, *Statistics in Medicine*, 1994; 13(12):1211-1231.
7. **Rutter CM**, Gatsonis, CG. Regression methods for meta-analysis of diagnostic test data, (with discussion) *Academic Radiology*, 1995; 2(Suppl 1):S48-S56.
8. Ozaki CK, Contreras M, Phaneuf M, Sheppeck RA, **Rutter CM**, Quist WC, LoGerfo FW. Platelet activation by healing ePTFE grafts, *Journal of Biomedical Materials Research*, 1995; 29(5):647-653.
9. Baum RA, **Rutter CM**, Sunshine JH, Blebea JS, Blebea J, Carpenter JP, Dickey KW, Quinn SF, Gomes AS, Grist TM, McNeil BJ for the American College of Radiology rapid technology assessment group. Multi-center trial to evaluate vascular magnetic

- resonance angiography of the lower extremity, *Journal of the American Medical Association*, 1995; 274(11):875-880.
10. Zerhouni EA, **Rutter C**, Hamilton SR, Balf DM, Megibow AJ, Francis IR, Moss AA, Heiken JP, Tempany CM, Aisen AM, Weinreb JC, Gatsonis C, McNeil BJ. CT and MR imaging in the staging of colorectal carcinoma: report of the Radiologic Diagnostic Oncology Group II, *Radiology*, 1996; 200:443-451.
 11. Unützer J, Patrick D, Simon G, Grembowski D, Walker E, **Rutter C**, Katon W. Depressive symptoms and the cost of health services in HMO patients age 65 and older. A four-year prospective study, *Journal of the American Medical Association*, 1997; 277(20):1618-1623.
 12. Goldberg DP, Gater R, Sartorius N, Ustun TB, Piccinelli M, Gureje O, **Rutter C**. The validity of two versions of the GHQ in the WHO study of mental illness in general health care, *Psychological Medicine*, 1997; 27(1):191-197.
 13. Shlansky-Goldberg RD, VanArsdalen KN, **Rutter CM**, Soulen MC, Haskal ZJ, Baum RA, Cope C, Pentecost MJ. Percutaneous varicocele embolization versus surgical ligation for the treatment of infertility: changes in seminal parameters and pregnancy outcomes, *Journal of Vascular and Interventional Radiology*, 1997; 8(5):759-767.
 14. Pepe MS, Urban N, **Rutter C**, Longton G. Design of a study to improve accuracy in reading mammograms, *Journal of Clinical Epidemiology*, 1997; 50(12):1327-1338.
 15. Newton KM, LaCroix AZ, Leveille SG, **Rutter C**, Keenan NL, Anderson LA. Women's beliefs and decisions about hormone replacement therapy, *Journal of Women's Health*, 1997; 6(4):459-465.
 16. Lin E, Katon W, Simon G, Von Korff M, Bush T, **Rutter C**, Saunders K, Walker E. Achieving guidelines for the treatment of depression in primary care: is physician education enough? *Medical Care*, 1997; 35(8):831-842.
 17. Von Korff M, Moore JE, Lorig K, Cherkin DC, Saunders K, Gonzalez VM, Laurent D, **Rutter C**, Comite F. A randomized trial of a lay person-led self-management group intervention for back pain patients in primary care, *Spine*, 1998; 23(23):2608-2615.
 18. Simon GE, Katon W, **Rutter C**, VonKorff M, Lin E, Robinson P, Bush T, Walker EA, Ludman E, Russo J. Impact of improved depression treatment in primary care on daily functioning and disability, *Psychological Medicine*, 1998; 28(3):693-701.
 19. Newton KM, Lacroix AZ, Leveille SG, **Rutter C**, Keenan NL, Anderson LA. The physician's role in women's decision making about hormone replacement therapy, *Obstetrics and Gynecology*, 1998; 92(4 pt 1):580-584.
 20. Lin EH, Katon WJ, VonKorff M, Russo JE, Simon GE, Bush TM, **Rutter CM**, Walker EA, Ludman E. Relapse of depression in primary care. Rate and clinical predictors, *Archives of Family Medicine*, 1998; 7(5):443-449.
 21. Halpern EJ, **Rutter CM**, Gardiner GA Jr, Nazarian LN, Wechsler RJ, Levin DB, Kueny-Beck M, Moritz MJ, Carabasi RA, Kahn MB, Smullens SN, Feldman HI. Comparison of Doppler US and CT angiography for evaluation of renal artery stenosis, *Academic Radiology*, 1998; 5(8):524-532.

22. Walker EA, Unutzer J, **Rutter C**, Gelfand A, Saunders K, Von Korff M, Koss MP, Katon W. Costs of health care use by women HMO members with a history of childhood abuse and neglect, *Archives of General Psychiatry*, 1999; 56(7):609-613.
23. Simon GE, Von Korff M, **Rutter C**, Wagner E. Randomized trial of monitoring, feedback, and management of care by telephone to improve treatment of depression in primary care, *BMJ*, 2000; 320(7234):550-554.
24. **Rutter CM**, Taplin S. Assessing mammographers' accuracy. A comparison of clinical and test performance, *Journal of Clinical Epidemiology*, 2000; 53(5):443-450.
25. Taplin S, **Rutter CM**, Elmore JG, Seger D, White E, Brenner RJ. Accuracy of screening mammography using single versus independent double interpretation, *AJR American Journal of Roentgenology*, 2000; 174(5):1257-1262.
26. Katon W, **Rutter C**, Lin E, Simon G, Von Korff M, Bush T, Walker E, Ludman E. Are there detectable differences in quality of care or outcome of depression by primary care providers? *Medical Care*, 2000; 38(6):552-561.
27. **Rutter CM**, Bootstrap estimation of diagnostic accuracy using patient-clustered data, *Academic Radiology*, 2000; 7(6):413-419.
28. Mandelson MT, Curry SJ, Anderson LA, Nadel MR, Lee NC, **Rutter CM**, LaCroix AZ. Colorectal cancer screening participation by older women, *American Journal of Preventive Medicine*, 2000; 19(3):149-154.
29. **Rutter CM**, Mandelson MT, Laya MB, Seger DJ, Taplin S. Changes in breast density associated with initiation, discontinuation, and continuing use of hormone replacement therapy (HRT), *JAMA*. 2001; 285(2):171-176.
30. Katon W, **Rutter C**, Ludman EJ, Von Korff M, Lin E, Simon G, Walker E, Unutzer J, Bush T. A Randomized trial of relapse prevention of depression in primary care, *Archives of General Psychiatry*, 2001; 58(3):241-247.
31. Simon GE, Von Korff M, **Rutter CM**, Peterson DA. Treatment process and outcomes for managed care patients receiving new antidepressant prescriptions from psychiatrists and primary care physicians, *Archives of General Psychiatry*, 2001; 58(4):395-401.
32. Lehman CD, Miller L, **Rutter CM**, Tsu V. Effect of training with the American College of Radiology breast imaging reporting and data system lexicon on mammography interpretation skills in developing countries, *Academic Radiology*, 2001; 8(7):647-650.
33. **Rutter CM**, Gatsonis CA. A hierarchical regression approach to meta-analysis of diagnostic test accuracy evaluations, *Statistic in Medicine*, 2001; 20(19):2865-2884.

34. Simon GE, Katon WJ, Von Korff M, Unützer J, Lin EHB, Walker EA, Bush T, **Rutter C**, Ludman E. Cost-effectiveness of a collaborative care program for primary care patients with persistent depression, *American Journal of Psychiatry* 2001; 158(10):1638-1644.
35. Bradley KA, Bush KR, Davis TM, Dobie DJ, Burman ML, **Rutter CM**, Kivlahan DR. Binge drinking among female Veterans Affairs patients: prevalence and associated risks, *Psychology of Addictive Behaviors*, 2001; 15(4):297-305.
36. Taplin SH, **Rutter CM**, Finder C, Mandelson MT, Houn F, White E. Screening mammography: clinical image quality and the risk of interval breast cancer, *AJR American Journal of Roentgenology*, 2002; 178(4):797-803.
37. Ludman EJ, Simon GE, **Rutter CM**, Bauer MS, Unützer J. A measure for assessing patient perception of provider support for self-management of bipolar disorder, *Bipolar Disorders*, 2002; 4(4):249-253.
38. Simon GE, VonKorff, M, Ludman EJ, Katon W, **Rutter C**, Unutzer J, Lin EHB, Bush T, Walker E. Cost-effectiveness of a program to prevent depression relapse in primary care, *Medical Care*, 2002; 40(10):941-50.
39. **Rutter CM**, Miglioretti DL. Estimating the accuracy of psychological scales using longitudinal data, *Biostatistics*, 2003; 4:97-107.
40. Carney PA, Miglioretti DL, Yankaskas BC, Kerlikowske K, Rosenberg R, **Rutter C**, Geller BM, Abraham LA, Taplin, SH, Dignan M, Cutter G, Ballard-Barbash R. Individual and combined effects of age, breast density, and hormone replacement therapy use on the performance of screening mammography, *Annals of Internal Medicine*, 2003; 138(3):168-175.
41. Katon W, Von Korff M, Lin E, Simon G, Ludman E, Bush T, Walker E, Ciechanowski P, **Rutter C**. Improving primary care treatment of depression among patients with diabetes mellitus: the design of the pathways study. *General Hospital Psychiatry* 2003; 25(3):158-168.
42. Lin EH, Von Korff M, Ludman EJ, **Rutter C**, Bush TM, Simon GE, Unutzer J, Walker E, Katon WJ. Enhancing adherence to prevent depression relapse in primary care, *General Hospital Psychiatry* 2003; 25(5):303-310.
43. Ludman E, Katon W, Bush T, **Rutter C**, Lin E, Simon G, Von Korff M, Walker E. Behavioral factors associated with symptom outcomes in a primary care-based depression prevention intervention trial, *Psychological Medicine*, 2003; 33(6):1061-1070.
44. **Rutter CM**, Simon G. A Bayesian method for relating cross-sectional and longitudinal measures, *Journal of the Royal Statistical Society, Series C: Applied Statistics*, 2004; 53(2):341-353.
45. Rulyak SJ, Mandelson MT, **Rutter CM**, Wagner EH. Clinical and sociodemographic factors associated with colon surveillance among patients with a history of colorectal cancer, *Gastrointestinal Endoscopy*, 2004; 59(2):239-247.

46. Liu LL, Gallaher MM, Davis RL, **Rutter CM**, Lewis TC, Marcuse EK. Use of a respiratory clinical score among different providers, *Pediatric Pulmonology*, 2004; 37(3):243-248.
47. Miglioretti DL, **Rutter CM**, Geller BM, Cutter G, Barlow WE, Rosenberg R, Weaver DL, Taplin SH, Ballard-Barbash R, Carney PA, Yankaskas BC, Kerlikowske K. Effect of breast augmentation on the accuracy of mammography and cancer characteristics, *JAMA*, 2004; 291(4):442-450.
48. Lin EH, Katon W, Von Korff M, **Rutter C**, Simon GE, Oliver M, Ciechanowski P, Ludman EJ, Bush T, Young B. Relationship of depression and diabetes self-care, medication adherence, and preventive care, *Diabetes Care*, 2004; 27(9):2154-2160.
49. Bush T, **Rutter C**, Simon G, Von Korff M, Katon W, Walker E, Lin E, Ludman E. Who benefits from more structured depression treatment? *International J of Psychiatry in Medicine*, 2004; 34(3):247-258.
50. Von Korff M, Katon W, Lin EH, Simon G, Ludman E, Oliver M, Ciechanowski P, **Rutter C**, Bush T. Potentially modifiable factors associated with disability among people with diabetes, *Psychosomatic Medicine*, 2005; 67(2):233-240.
51. Simon GE, Ludman EJ, Unützer J, Bauer MS, Operskalski B, **Rutter C**. Randomized trial of a population-based care program for people with bipolar disorder, *Psychological Medicine*, 2005; 35(1):13-24.
52. Von Korff M, Katon W, Lin EH, Simon G, Ciechanowski P, Ludman E, Oliver M, Rutter C, Young B. Work disability among individuals with diabetes, *Diabetes Care*, 2005; 28(6):1326-1332.
53. Katon WJ, **Rutter C**, Simon G, Lin EHB, Ludman E, Ciechanowski P, Kinder L, Young B, Von Korff M. The association of comorbid depression with mortality in patients with type 2 diabetes, *Diabetes Care*, 2005; 28(11):2668-2672.
54. Boudreau D, Buist D, **Rutter C**, Fishman P, Beverly, Taplin ST. Impact of hormone therapy on false-positive recall and costs among women undergoing screening mammography, *Medical Care*, 2006; 44(1):62-69.
55. Velicer CM, Heckbert SR, **Rutter C**, Lampe JW, Malone K. Association between antibiotic use prior to breast cancer diagnosis and breast tumor characteristics, *Cancer Causes and Control*, 2006; 17(3):307-313.
56. Lin EH, Katon W, **Rutter C**, Simon GE, Ludman EJ, Von Korff M, Young B, Ciechanowski P, Kinder L, Walker E. Effects of enhanced depression treatment on diabetes self-care, *Annals of Family Medicine*, 2006; 4(1):46-53.
57. Boudreau D, **Rutter CM**, Buist D. The influence of statin use on breast density, *Cancer Epidemiology, Biomarkers and Prevention*, 2006; 15(5):1026-1029.
58. Taplin SH, **Rutter CM**, Lehman C. Testing the effect of computer-assisted detection on interpretive performance in screening mammography, *AJR American Journal of Roentgenology*, 2006; 187(6):1475-1482.

59. Fulton-Kehoe D, Rossing MA, **Rutter C**, Mandelson MT, Weiss NS. Use of antidepressant medications in relation to the incidence of breast cancer, *British Journal of Cancer*. 2006; 94(7):1071-1078.
60. **Rutter CM**, Miglioretti DM, Yu, O. A hierarchical non-homogeneous Poisson model for meta-analysis of adenoma counts, *Statistics in Medicine*, 2007; 26(1):98-109.
61. Simon GE, Katon WJ, Lin EHB, **Rutter C**, Manning WG, Von Korff M, Ciechanowski P, Ludman EJ, Young BA. Cost-effectiveness of systematic depression treatment among people with diabetes mellitus, *Archives of General Psychiatry*, 2007; 64(1):65-72.
62. Simon GE, **Rutter CM**. Accuracy of recall for mania symptoms using a three month timeline follow-back interview, *Journal of Affective Disorders*, 2008; 107(1-3):271-274.
63. Lehman CD, **Rutter CM**, Eby PR, White E, Buist DSM, Taplin SH. Lesion and patient characteristics associated with malignancy after a probably benign finding on community practice mammogram, *AJR American Journal of Roentgenology*, 2008; 190(2):511-515.
64. Miglioretti DL, **Rutter CM**, Bradford SC, Zauber AG, Kessler LG, Feuer EJ, Grossman DC. Improvement in the diagnostic evaluation of a positive fecal occult blood test in an integrated health care organization, *Medical Care*, 2008; 46(9 Suppl 1):S91-S96.
65. Von Korff M, Saunders K, Ray GT, Boudreau D, Campbell C, Merrill J, Sullivan MD, **Rutter CM**, Silverberg M, Banta-Green C, Weisner C. De facto long-term opioid therapy for noncancer pain, *Clinical Journal of Pain*, 2008; 24(6):521-527.
66. Simon GE, **Rutter CM**, Crosier M, Scott J, Operskalski BH, Ludman E. Are comparisons of consumer satisfaction with providers biased by nonresponse or case-mix differences? *Psychiatric Services*, 2009; 60(1):67-73.
67. Ralston JD, **Rutter CM**, Carrell D, Hecht J, Rubanowice D, Simon G. Patient use of secure electronic messaging with a shared medical record: a cross-sectional study, *Journal of General Internal Medicine*, 2009; 24(3):349-355.
68. Braden JB, Sullivan MD, Ray GT, Saunders K, Merrill J, Silverberg MJ, **Rutter CM**, Weisner C, Banta-Green C, Campbell C, Von Korff M. Trends in long-term opioid therapy for noncancer pain among persons with a history of depression, *General Hospital Psychiatry*, 2009; 31(6):564-570.
69. Williams LH, **Rutter CM**, Katon WJ, Reiber GE, Ciechanowski P, Heckbert SR, Lin EH, Ludman EJ, Oliver MM, Young BA, Von Korff M. Depression and incident diabetic foot ulcers: a prospective cohort study, *Journal of Investigative Dermatology*, 2009; 129:S61.
70. Lin HBE, Heckbert SR, **Rutter CM**, Katon WJ, Ciechanowski P, Ludman EJ, Oliver M, Young BA, McCulloch DK, Von Korff M. Depression and increased mortality in diabetes: unexpected causes of death, *Annals of Family Medicine*; 2009; 7(5):414-421.

71. Simon GE, Ludman EJ, **Rutter CM**. Incremental benefit and cost of telephone care management and telephone psychotherapy for depression in primary care, *Archives of General Psychiatry*, 2009; 66(10):1081-1089.
72. Gensichen J, Von Korff M, **Rutter CM**, Seelig MD, Ludman EJ, Lin EHB, Ciechanowski P, Young BA, Wagner EH, Katon WJ. Physician support for diabetes patients and clinical outcomes, *BMB Public Health*, 2009; 9:367.
73. Boudreau D, Von Korff M, **Rutter CM**, Saunders K, Ray GT, Sullivan MD, Campbell C, Merrill J, Silverberg M, Banta-Green C, Weisner C. Trends in long-term opioid therapy for chronic non-cancer pain, *Pharmacoepidemiology and Drug Safety*, 2009; 18(12):1166-1175.
74. Lin HBE, **Rutter CM**, Katon WJ, Heckbert SR, Ciechanowski P, Oliver M, Ludman EJ, Young BA, McCulloch DK, Von Korff M. Depression and advanced complications of diabetes: a prospective cohort study, *Diabetes Care*, 2009; 33(2):264-269.
75. Zauber AG, Knudsen AB, **Rutter CM**, Lansdorp-Vogelaar I, Savarino JE, van Ballegooijen M, Kuntz KM. Cost-Effectiveness of CT Colonography to Screen for Colorectal Cancer: Report to Center for Medicare and Medicaid Services from Cancer Intervention and Surveillance Modeling Network (CISNET), *Gastroenterology*, 2009; 136(5): A52-A52.
76. **Rutter CM**, Miglioretti DL, Savarino JE. Bayesian calibration of microsimulation models, *Journal of the American Statistical Association*, 2009; 104(488):1338-1350.
77. Dunn KM, Saunders KW, **Rutter CM**, Banta-Green CJ, Merrill JO, Sullivan MD, Weisner CM, Silverberg MJ, Campbell CI, Psaty BM, Von Korff. Opioid prescriptions for chronic pain and overdose: a cohort study, *Annals of Internal Medicine*, 2010; 152(2):85-92.
78. Heckbert SR, **Rutter CM**, Oliver M, Williams LH, Ciechanowski P, Lin EHB, Katon WJ, Von Korff M. Depression in relation to long-term control of glycemia, blood pressure, and lipids in patients with diabetes, *Journal of General Internal Medicine*, 2010; 26(5):524-529.
79. Katon WJ, Lin EH, Williams LH, Ciechanowski P, Heckbert SR, Ludman E, **Rutter C**, Crane PK, Oliver M, Von Korff M. Comorbid depression is associated with an increased risk of dementia diagnosis in patients with diabetes: a prospective cohort study, *Journal of General Internal Medicine*, 2010; 25(5):423-429.
80. Young BA, Von Korff M, Heckbert SR, Ludman EJ, **Rutter C**, Lin EH, Ciechanowski PS, Oliver M, Williams L, Himmelfarb J, Katon WJ. Association of major depression and mortality in Stage 5 diabetic chronic kidney disease, *General Hospital Psychiatry*, 2010; 32(2):119-124.
81. **Rutter CM**, Savarino JE. An evidence-based microsimulation model for colorectal cancer, *Cancer Epidemiology Biomarkers and Prevention*, 2010; 19(8) 1992-2002.
82. Williams LH, **Rutter CM**, Katon WJ, Reiber GE, Ciechanowski P, Heckbert SR, Lin EHB, Ludman EJ, Oliver MM, Young BA, Von Korff M. Depression And Incident Diabetic Foot Ulcers: A Prospective Cohort Study, *American Journal of Medicine*, 2010; 123: 748-754.

83. Knudsen AB, Lansdorp-Vogelaar I, **Rutter CM**, Savarino JE, van Ballegooijen M, Kuntz KM, Zauber AG. Cost-Effectiveness of CT Colonography Screening for Colorectal Cancer among the Medicare Population, *Journal of the National Cancer Institute*, 2010 102:1238-1252.
84. **Rutter CM**, Zaslavsky A, Feuer E. Dynamic microsimulation models for health outcomes: a review, accepted for publication in *Medical Decision Making*, February 2010.
85. Katon W, Lin E, Von Korff M, Ciechanowski P, Ludman E, Young B, Peterson D, **Rutter CM**, McGregor M, McCulloch D. Randomized Trial of TEAMcare: Multi-Condition Collaborative Care for Chronic Illness and Depression, accepted for publication, *New England Journal of Medicine*, July 2010
86. Berrington de González A, Kim KP, Knudsen AB, Lansdorp-Vogelaar I, **Rutter CM**, Smith-Bindman R, Yee J, Kuntz KM, van Ballegooijen M, Zauber AG, Berg CD. Radiation-related cancer risks from CT colonography screening: a risk-benefit analysis, accepted for publication, *American Journal of Roentgenology*, August 2010.
87. Katon W, Lin E, Von Korff M, Ciechanowski P, Ludman E, Young B, Peterson D, **Rutter CM**, McGregor M, McCulloch D. Collaborative Care for Patients with Depression and Chronic Illnesses, *New England Journal of Medicine*, 2010; 363:2611-20.
88. **Rutter CM**, Knudsen AB. Microsimulation Models: Synthesizing Evidence for Policy Makers, invited paper, accepted for publication, *Academic Radiology*, January 2011.
89. Silverberg MJ, Ray T, Saunders K, **Rutter CM**, Campbell CI, Merrill JO, Sullivan MD, Banta-Green C, Von Korff M, Weisner C. Prescription Long-Term Opioid Use In HIV-Infected Persons, accepted for publication, *The Clinical Journal of Pain*
90. Von Korff MR, Merrill JO, **Rutter CM**, Sullivan M, Campbell CI, Weisner C. Time-Scheduled versus Pain-Contingent Opioid Dosing in Chronic Opioid Therapy, accepted for publication, *Pain*.
91. Kuntz KM, Lansdorp-Vogelaar I, **Rutter CM**, Knudsen AB, van Ballegooijen M, Savarino J, Feuer EJ, Zauber AG. A systematic analytical comparison of microsimulation models of colorectal cancer: the role of assumptions about adenoma progression, accepted for publication, *Medical Decision Making*.
92. van Ballegooijen M, **Rutter CM**, Knudsen AB, Zauber AG, Savarino J, Lansdorp-Vogelaar I, Feuer EJ, Kuntz KM. Clarifying differences between models for screening. The case of colorectal cancer, accepted for publication, *Medical Decision Making*.
93. Vanness DJ, Knudsen AB, Lansdorp-Vogelarr I, **Rutter CM**, Herman BA, Gareen IF, Kuntz KM, Zauber, AG, van Ballegooijen M, Feuer EJ, Chen M, Johnson CD. Comparative Economic Evaluation of the American College of Radiology Imaging Network National CT Colonography Trial with three CISNET Microsimulations, accepted for publication, *Radiology*.

Other Publications

1. **Rutter CM**. Looking back at prospective studies, *Academic Radiology*, 2008; 15(11): 1463-1466.
2. Zauber AG, Knudsen AB, **Rutter CM**, Landsdorp-Vogelaar I, Savarino JE, van Ballegooijen M, Kuntz KM. Cost-Effectiveness of CT Colonography to Screen for Colorectal Cancer, January 22, 2009, AHRQ Technology Assessment Program, for the NCA for Screening Computed Tomography Colonography (CTC) for Colorectal Cancer (CAG-00396N).
3. **Rutter CM**, Kuntz KM, Zauber AG. Extracolonic Findings From CTC: Balancing Risks and Benefits. *American Journal of Roentgenology*, 193: W470-W470, 2009.
4. Knudsen AB, Lansdorp-Vogelaar I, **Rutter CM**, Savarino JE, van Ballegooijen M, Kuntz KM, Zauber AG. Response to Letter from Pickhardt, Kim, and Hassan. *Journal of the National Cancer Institute*, 2010 102:1238-1252.

Articles in Progress

1. Gard CC, Bowles EJA, Miglioretti DL, Taplin SH, **Rutter CM**. Reproducibility of Breast Imaging Reporting and Data System (BI-RADS) mammographic breast density and relationship to percent density, under review.
2. **Rutter CM**, Miglioretti DL, Savarino JE. A Simulation-based Approach to Evaluating Risk Factor Assumptions, under review.
3. Lin EHB, Von Korff M, Ciechanowski P, Peterson D, Ludman EJ, **Rutter CM**, Oliver M, Young B, Gensichen J, McGregor M, McCulloch D, Katon W. Achieving Treatment Targets in Multi-condition Collaborative Care for Diabetes, under review.
4. Ding V, Hubbard R, **Rutter C**, Simon G. The effect of between-provider variability on provider profiling: an application to performance of mental health care providers, under review.
5. **Rutter CM**, Johnson E, Miglioretti DL, Mandelson MT, Inadomi J, Buist DB. Complications from Screening and Follow-up Colonoscopy, under review.

Funded Projects (as PI)

Note that I have maintained full funding on NIH grants since 1995. The list of projects, below, is restricted to those as Principal Investigator.

Methods for Evaluating Mammographic Imaging

Department of Defense Career Development Award, 1997-2001

The major goal of this project was to support Dr. Rutter in learning about the epidemiology and disease processes of breast cancer and provide time to carry out statistical research focusing on receiver operating characteristic (ROC) analysis.

Modeling Clinical and Functional Depression Outcomes (NIMH: R03MH064516)

December 2001-November 2003

The focus of this project was to combine information across a series of longitudinal information across several studies carried out at Group Health that examined treatment for depression using similar outcome measures.

Colorectal Cancer Screening: Evaluating Trends & Outcomes (NCI: U01CA097427)

August 2002-July 2005

The major goals of this project were to develop a new microsimulation model for colorectal cancer that would allow specification of distributions for unknown model parameters, and then to apply this model to examine the impact of screening and polypectomy on observed trends in CRC incidence and mortality.

Assessing the Impact of Colorectal Cancer Screening (NCI: U01CA097427)

August 2005-July 2010

The major goals of this project were to estimate the effect of screening and polypectomy on trends in colorectal cancer (CRC) incidence and mortality, to incorporate risk factors into our microsimulation model, and to collaborate with CISNET members and outside investigators to address policy-relevant questions related to CRC screening.

Assessing the Impact of Colorectal Cancer Screening – competitive supplement

September 2009-August 2011

The major goal of this supplement is to modify our existing microsimulation model for colorectal cancer to examine the impact of extracolonic findings on the cost-effectiveness of CT colonography.

Modeling Effective Health Policies for Colorectal Cancer (NCI: U01CA152959)

September 2010-August 2015

The major goals are to develop extensions of the CRC-SPIN screening model and to execute analysis exploring the impact of different screening modalities on colorectal cancer incidence and mortality.

Conferences and Symposiums, beginning in 2001

- March 2001 **Contributed Presentation** (competitive): *Changes in Breast Density Associated with Initiation, Discontinuation, and Continuing use of Hormone Replacement Therapy (HRT)*, American Society for Preventive Oncology, New York, New York.
- March 2001 **Contributed Presentation:** *Estimating the Accuracy of Screening Scales using Longitudinal Data*, ENAR, Charlotte, North Carolina
- June 2001 **Invited Presentation:** *Estimating the Accuracy of Psychological Screening Scales using Longitudinal Data*, UCLA Biostatistics Seminar
- August 2001 **Invited Presentation:** *Estimating the Accuracy of Screening Scales using Longitudinal Data*, Joint Meetings of the American Statistical Association, Atlanta, Georgia.

- June 2002 **Contributed Presentation:** *A Bayesian Model for Estimating Agreement Between Cross-Sectional and Recall-Based Depression States*, The Hawaii International Conference on Statistics
- July 2002 **Contributed presentation:** *A Bayesian Model for Estimating Agreement Between Cross-Sectional and Recall-Based Depression States*, International Biometric Society Conference, Freiburg, Germany.
- September 2002 **Invited Presentation:** *Agreement between current state and recalled measures of Depression*, University of Washington Social Development Research Group
- January 2005 **Invited Seminar:** *Likelihood-based Calibration for Microsimulation Models*, Harvard Center for Risk Analysis and Decision Making, Boston
- June 2006 **Invited Presentation:** *Propensity Adjusted Survival Models*, part of a panel on “Methods for Analyzing Incomplete and Observational Data” Academy Health Meetings, Seattle
- March 2007 **Seminar:** *Likelihood-based calibration of Microsimulation Models*, Fred Hutchinson Cancer Research Center, Seattle WA
- January 2008 **Invited Workshop:** *Microsimulation Modeling*, International Conference on Health Policy Statistics, Philadelphia
- March 2008 **Roundtable Leader:** *Development and Use of Microsimulation Models in Health Policy*, ENAR, Washington DC
- August 2008 **Invited Presentation:** *Bayesian Meta-Analysis of Diagnostic Test Accuracy Studies: Recent Developments*, Joint Statistical Meetings, Denver CO
- October 2008 **Seminar:** *Bayesian Calibration of Microsimulation Models*, University of Washington Department of Biostatistics, Seattle WA.
- November 2008 **Invited Seminar:** *Microsimulation Models to Evaluate Cancer Control Measures*, University of Michigan
- January 2010 **Invited Workshop:** *Microsimulation Modeling*, International Conference on Health Policy Statistics, Washington DC
- June 2010 **Invited Discussant:** *Statistical Challenges in Comparative Effectiveness Research*, 2010 Western North American Region (WNAR) Biometrics Meetings, Seattle, WA.
- August, 2010 **Invited Seminar:** *Bayesian Calibration of Microsimulation Models*, 2010 Joint Statistical Meetings, Vancouver, BC, Canada
- November, 2010 **Invited Keynote Presentation:** *Microsimulation Models: Integrating Evidence for Health Policy*, Meetings of the Radiologic Society of North America, Chicago IL

January, 2011 **Invited Presentation:** *Simulation Models to Inform Health Policy: Colorectal Cancer Screening*, Bayesian Biostatistics Conference, Houston TX

April, 2011 **Invited Presentation:** *Simulation Models to Inform Health Policy* National Institute of Statistical Sciences (NISS) Survey Microsimulation Workshop, Washington DC

University of Washington Service

2008/2009 Member, search committee
Joint faculty hire, University of Washington School of Public Health
Departments of Biostatistics and Health Services

2008/2010 Chair, Affiliate Committee
University of Washington School of Public Health, Biostatistics Dept.

Spring 2008 Grader, Applied Exam
University of Washington School of Public Health, Biostatistics Dept.

2009, 2010 Member, Applied Exam Committee
University of Washington School of Public Health, Biostatistics Dept.

Teaching History

2001 HSERV 509: Introduction to Biostatistics for Health Services

2002, 2004 HSERV 590: Health Survey Research, Guest Lecture: *Hierarchical Modeling*

2004 Health Services Doctoral Seminar Guest Lecture: *Basics of Bayesian Methods*

2004, 2005 Biostatistics Block of the Community-Oriented Public Health Practice (COPHP) program (6 week course section)

2010 Biostatistics Student Seminar Guest Lecture: *Grant Writing 101*

2004-2010 HSERV 523: Advanced Health Services Research Methods I
Annual Guest Lecture: *Propensity Scores & Selection Bias*

2007-2009 EPI 533 / PHARM 533, Annual Guest Lecture: *Propensity Scores & Selection Bias*

2009 Biostatistics Student Seminar (joint with Holly Janes)

2010 Directed Readings on Microsimulation with Biostatistics student Jane Lange

2011 Directed Readings on Microsimulation with Biostatistics student Wenying Zheng

2011 BIOST 590: Biostatistical Consulting (Winter Quarter)

Advising and Formal Mentoring

PhD Committees in Non-Chair Role

Deb Fulton-Kehoe

University of Washington, School of Public Health, Dept. of Epidemiology

Title: Antidepressant Use and Breast Cancer

2005 PhD graduate

Chair: Mary A. Rossing, Epidemiology

Michael Sachs

University of Washington, School of Public Health, Dept. of Biostatistics

Expected PhD graduation date: 2011

Chair: Hua Andrew Zhao, Biostatistics

David Liss

University of Washington, School of Public Health, Dept. of Health Services

Expected PhD graduation date: 2011

Co-Chairs: Rob Reid & Paul Fishman, Health Services

Informal Advising

Wenying Zheng

University of Washington, School of Public Health, Dept. of Biostatistics

Research Associate examining sojourn time for colorectal cancer, supported by U01CA097427.