

DENISE M. BOUDREAU, R.Ph., MS., Ph.D.

Scientific Investigator
Group Health Center for Health Studies
1730 Minor Ave, Suite 1600
Seattle, WA 98101
tel. 206-448-6888
boudreau.d@ghc.org

Associate Professor (Affiliate)
Department of Pharmacy
1959 NE Pacific Ave NE, Room H-375Q
Box 357630
University of Washington
Seattle, WA 98195 7630

EDUCATION

1987-1992 University of Rhode Island, Kingston, Rhode Island, B.S., Pharmacy
1994-1996 University of Rhode Island, Kingston, RI, M.S., Pharmacy Administration
1998-2002 University of Washington, Seattle, Washington, Ph.D., Pharmaceutical Outcomes Research and Policy

PROFESSIONAL POSITIONS

2005 – pres Assistant Scientific Investigator, Group Health Center for Health Studies, Seattle, Washington
2004 – pres Associate Professor (affiliate), Pharmaceutical Outcomes Research and Policy Program, Department of Pharmacy, University of Washington, Seattle, Washington
2008 – pres Visiting Scientist, Center for Epidemiology and Database Analytics, United BioSource Corporation, Seattle, Washington
2003 - 2004 Research Associate II, Center for Health Studies, Group Health Cooperative, Seattle, Washington
2000 - 2002 Research Assistant, Public Health Sciences, Fred Hutchinson Cancer Research Center, Seattle, Washington
1998 - 2002 Research Assistant, Department of Pharmacy, University of Washington, Seattle, Washington
1997 - 1998 Pharmacist, Rite Aid Pharmacy, Bothel, Washington
1994 - 1996 Research Associate, Kay Rem Associates, Peacedale, Rhode Island
1996 - 1996 Clinical Pharmacist, ProMark, Peacedale, Rhode Island
1992 - 1996 Pharmacist, Douglas Maxi Drug, Providence, Rhode Island

TEACHING

Courses in Schools of Pharmacy or Public Health

2008-pres Instructor, Pharmacoepidemiology, Epi/Pharm 533, University of Washington, Seattle
2004-pres Lecturer, Quantitative Methods, Pharmacy 500, University of Washington, Seattle, Washington
Fall 2005 Instructor, Pharmaceutical Outcomes Seminar, Pharmacy 547, University of Washington, Seattle, Washington
1998-1999 Teaching Assistant, Pharmaceutical Care Systems & Pharmacy Law, University of Washington, Seattle, Washington
1995-1996 Teaching Assistant/Externship Coordinator, Pharmacy Practice, University of Rhode Island, Kingston, Rhode Island

Committees

- 2008-pres Yvonne Lin: Masters thesis on “Atomoxetine treatment on growth in children with attention deficit/hyperactivity disorder.”
- 2005-2007 Jessica Chubak: Doctoral dissertation on “Breast cancer recurrence risk in relation to antidepressant use after diagnosis.”
- 2005-2007 Sarika Ogale: Doctoral dissertation on “Cardiovascular events and mortality outcomes associated with the use of long-acting β_2 -agonists and inhaled corticosteroids in COPD patients.”

AWARDS & HONORS

- 2002 Pharmaceutical Research and Manufacturers of America Foundation Pre Doctoral Fellowship in Health Outcomes
- 1999-2002 American Foundation for Pharmaceutical Education Fellowship Award
- 1999-2000 Eli Lilly Endowed Academic Scholarship

LICENSURE

- 1992- pres Rhode Island State Board of Pharmacy
- 1997- pres Washington State Board of Pharmacy

PROFESSIONAL ORGANIZATIONS

International Society for Pharmacoepidemiology
International Society for Pharmacoeconomics and Outcomes Research

PUBLICATIONS

Malone DC, **Boudreau DM**, Nichols GA, Raebel MA, Fishman PE, Feldstein AC, Boscoe A, Ben-Joseph RH, Okamoto LJ, Magid DJ. Association of cardiometabolic risk factors and cardiovascular events. In press at *Metab Synd Relat Disord*.

Constance Weisner C, Campbell CI, Ray GT, Saunders K, **Boudreau D**, Sullivan MD, Merrill JO, Silverberg MJ, Banta-Green C, Von Korff M. Trends in Prescribed Opioid Therapy for Non-Cancer Pain for Individuals with Prior Substance Use Disorders. In press at *Pain*.

Banta-Green C, Merrill J, Doyle S, **Boudreau DM**, Donald Calsyn D. Opioid use behaviors, mental health and pain- Development of a typology of chronic pain patients. In press at *Drug Alcohol and Dependence*.

Banta-Green C, Merrill J, Doyle S, **Boudreau DM**, Donald Calsyn D. Measurement of Opioid Problems Among Chronic Pain Patients in a Large HMO. In press at *Drug Alcohol and Dependence*.

Boudreau DM, Malone DC, Raebel MA, Fishman PE, Nichols GA, Feldstein AC, et al. Health economic burden of cardiometabolic risk. In press at *Metab Synd Relat Disord*.

Mazor KM, Sabin JE, Goff, SL, Smith DH, Rolnick S, Roblin, D, Raebel MA, Herrinton LJ, Gurwitz JH, **Boudreau DM**, Meterko V, Dodd KS, Platt R.. Cluster randomized trials to study the comparative effectiveness of therapeutics: Stakeholders' concerns and recommendations. *Pharmacoepidemiol Drug Saf*. 2009 Apr 28. [Epub ahead of print]

Chubak J, **Boudreau DM**, Rulyak S, Mandelson M. Colorectal cancer risk in relation to use of acid suppressive medications. *Pharmacoepidemiol Drug Saf.* 2009 Apr 14. [Epub ahead of print].

Ogale SS, Lee TA, Au DH, **Boudreau DM**, Sullivan SD. Cardiovascular events associated with ipratropium bromide in COPD. *Chest.* 2009 Apr 10. [Epub ahead of print].

Brown JS, Kulldorff M, Petronis KR, Reynolds R, Chan KA, Davis RL, Graham D, Andrade SE, Raebel MA, Herrinton L, Roblin D, **Boudreau D**, Smith D, Gurwitz JH, Gunter MJ, Platt R. Early adverse drug event signal detection within population-based health networks using sequential methods: key methodologic considerations. *Pharmacoepidemiol Drug Saf.* 2009 Jan 15. [Epub ahead of print]

Andrade SA, McPhillips H, Loren D, Raebel MA, Lane K, Livingston J, **Boudreau D**, Smith DH, Davis RL, Willy ME, Platt R. Antidepressant Medication Use and Risk of Persistent Pulmonary Hypertension of the Newborn. *Pharmacoepidemiol Drug Saf.* 2009 Jan 15. [Epub ahead of print].

Yu Onchee, **Boudreau DM**, Buist DSM, Miglioretti DL. Statin use and female reproductive organ cancer risk in a large population-based setting. *Cancer Causes Control* 2008 Nov 30. [Epub ahead of print]

Boudreau DM, Koehler E, Rulyak SJ, Haneuse S, Harrison R, Mandelson MT. Antihypertensive medication use and risk of colorectal cancer? *Cancer Epidemiol Biomarkers Prev.* 2008;17:3076-80.

Bonomi AE, **Boudreau DM**, Fishman PA, Mohelnitzky MA, Ludman E, Cannon EA, Seger D. Quality of life valuations of mammography screening. *Qual Life Res.* 2008 May 20. [Epub ahead of print].

Boudreau DM, Yu O, Buist DSM, Miglioretti DL. Statin use and prostate cancer risk in a large population based setting. *Cancer Causes Control.* 2008; 19:767-774.

Von Korff M, Saunders K, Ray GT, **Boudreau DM**, Campbell C, Merrill, Sullivan MD, Rutter C, Silverberg M, Banta-Green C. Long-term episodes of opioid therapy for non-cancer pain: consort methods and episode characteristics. *Clin J Pain.* 2008; 24:521-7.

Goff SL, Feld A, Andrade SE, Mahoney L, Beaton SJ, **Boudreau DM**, et al. Use of administrative data to identify patients with irritable bowel syndrome. *J Clin Epidemiol.* 2008;61:617-21.

Andrade S, Raebel M, Brown J, Lane K, Livingston J, **Boudreau DM**, Rolnick SJ, Roblin R, Smith DH, Dal Pan GJ, Scott PE, Platt R. Outpatient use of cardiovascular medications during pregnancy. *Pharmacoepidemiol Drug Saf.* 2008;17:240-7.

Chubak J, Buist DS, **Boudreau DM**, Rossing MA, Lumley T, Weiss NS. Breast cancer recurrence risk in relation to antidepressant use after diagnosis. *Breast Cancer Res Treat.* 2007 Dec 6; [Epub ahead of print].

Brown JS, Kulldorff M, Chan KA, Davis RL, Graham D, Pettus PT, Andrade SE, Raebel MA, Herrinton L, Roblin D, **Boudreau D**, Smith D, Gurwitz JH, Gunter MJ, Platt R. Early detection of adverse drug events within population-based health networks: application of sequential testing methods. *Pharmacoepidemiol Drug Saf.* 2007;16:1275-1284.

Mazor KM, Sabin J, **Boudreau DM**, Goodman M, Gurwitz JH, Herrinton LJ, Raebel MA, Roblin D, Smith DH, Meterko V, Platt R.. Cluster randomized trials: opportunities and barriers identified by leaders of eight health plans. *Med Care*. 2007 Oct;45(10 Supl 2):S29-37

Andrade S, Raebel M, Brown J, Lane K, Livingston J, **Boudreau DM**, Roblin R, Smith D, Platt R. Use of Antidepressant Medications During Pregnancy: A Multi-site Study. *Am J Obstet Gynecol*. 2008;198:194.e1-5. Epub 2007 Oct 1.

Boudreau DM, Luce C, Bonomi AE, Ludman EJ, Fishman PE. Concordance of population-based estimates of mammography screening. *Prev Med*. 2007; 45:262-6.

Boudreau DM, Yu O, Miglioretti DL, Buist DM, Heckbert SR, Daling JR. Statin use and breast cancer risk in a large population-based setting. *Cancer Epidemiol Biomarkers Prev*. 2007;16:416-421.

Boudreau DM, Rutter CM, Buist DSM. The influence of statin use on breast density. *Cancer Epidemiol Biomarkers Prev*. 2006;15:1026-1029.

Boudreau DM, Buist DSM, Rutter CM, Fishman PA, Beverly KR, Taplin S. Impact of hormone therapy on false positive recall and costs among women undergoing screening mammography. *Med Care*. 2006;44:62-69.

Greene SM, Larson EB, **Boudreau DM**, Johnson KE, Ralston J, Reid R, et al. The Coordinated Clinical Studies Network: A multidisciplinary alliance to facilitate research and improve care. *The Permanente Journal*. 2005;9:33-35.

Chien C, Li CI, Heckbert SR, Malone KE, **Boudreau DM**, Daling JR. Antidepressant use and breast cancer risk. *Breast Cancer Res Treat* 2005 Dec 3; [Epub ahead of print]

Boudreau DM, Doescher MP, Savers BG, Jackson JE, Fishman PE. Reliability of Group Health Cooperative automated pharmacy data by drug benefit status. *Pharmacoepidemiol Drug Saf*. 2005;14:877-884.

Bonomi AE, **Boudreau DM**, Fishman PA, Revicki D. Is a family equal to the sum of its parts: Estimating outcomes at the level of the family for decision analysis. *Qual Life Res*. 2005;14:1127-1133.

Bonomi AE, Fishman PA, **Boudreau DM**, Mennan RT, Revicki D. Family-level cost-effectiveness analysis: How muddy is the water? (letter). *Qual Life Res*. 2005;14:1139-1140.

Voigt LF, **Boudreau DM**, Weiss NS, Malone KE, Li CI, Daling JR. Re: "Studies with low response proportions may be less biased than studies with high response proportions" (letter). *Am J Epidemiol*. 2005;161:401-402.

Boudreau DM, Doescher MP, Savers BG, Jackson JE, Fishman PE. Impact of healthcare delivery system on where HMO-enrolled seniors purchase medications. *Ann Pharmacother* 2004;38:1317-1318.

Boudreau DM, Gardner JS, Malone KE, Heckbert SR, Blough DK, Daling JR.. The association between 3-hydroxy-3-methylglutaryl coenzyme A inhibitor use and breast carcinoma risk among postmenopausal women: a case-control study. *Cancer*. 2004;100:2308-2316.

Boudreau DM, Daling JR, Malone KE, Gardner JS, Blough DK, Heckbert SR. A validation study of patient interview data and pharmacy records for antihypertensive, statin, and antidepressant medication use among older women. *Am J Epidemiol*. 2004;159:308-317.

Capoccia KL, **Boudreau DM**, Blough DK, Ellsworth A, Clark DL, Stevens NG, Katon WJ, Sullivan SD. A randomized trial of pharmacist intervention to improve depression care and outcomes in primary care. *Am J Health Syst Pharm*. 2004;61:364-372.

Li CI, Malone KE, Weiss NS, **Boudreau DM**, Cushing-Haugen KL, Daling JR. Relation between use of antihypertensive medications and risk of breast carcinoma among women ages 65-79 years. *Cancer*. 2003;98:1504-1513.

Boudreau DM, Leveille SG, Gray S, Black D, LaCroix AZ, Guralnik JM. Risks for frequent antimicrobial-treated infections in postmenopausal women. *Aging Clin Exp Res*. 2003;15:12-18.

Boudreau DM, Capoccia KL, Sullivan SD, Blough DK, Ellsworth A, Clark DL, Katon WJ, Walker EA, Stevens NG. Collaborative care model to improve outcomes in major depression. *Ann Pharmacother*. 2002;36:585-591.

Chaiyakunapruk N, **Boudreau DM**, Ramsey S. Pharmacoeconomic impact of HMG-CoA reductase inhibitors in type 2 diabetes. *J Cardiovasc Risk*. 2001;8:127-132.

Mosher BA, Cuddigan J, Thomas DR, **Boudreau DM**. Outcomes of 4 methods of debridement, using a decision analysis methodology. *Advances in Wound Care*. 1999;12:81-88.

MANUSCRIPTS UNDER REVIEW

Boudreau DM, Von Korff M, Rutter CM, Saunders K, Ray GT, Sullivan MD, Campbell C, Merrill JO, Silverberg MJ, Banta-Green C, Weisner C. Trends in De-facto Long-term Opioid Therapy for Chronic Non-Cancer Pain. Under review at *Pharmacoepidemiol Drug Saf*.

Fishman PA, **Boudreau DM**, Bonomi AE, Mahoney C, Seger D, Ludman E. Long term outcomes of a trial to increase mammographic breast cancer screening. Under review at *AJPH*.

Ogale SS, Lee TA, Au DH, **Boudreau DM**, Sullivan SD. The risk of all-cause mortality and cardiovascular events associated with the use of long acting β_2 -adrenoreceptor agonists in chronic obstructive pulmonary disease. Under review at *Annals Intern Med*.

BOOK CHAPTERS

Stergachis A, Hazlet T, **Boudreau DM**. Pharmacoepidemiology. Chapter 9 in *Pharmacotherapy: A Pathophysiologic Approach*, 6th edition. DiPiro JT, Talbert RT, Yee GC, Matzke GR, Wells BG, Posey LM. McGraw Hills Companies, Inc. 2007.

PRESENTATIONS

Malone DC, **Boudreau DM**, Nichols GA, Raebel MA, Fishman PE, Feldstein AC, Boscoe A, Ben-Joseph RH, Okamoto LJ, Magid DJ. Association of cardiometabolic risk factors and prevalent cardiovascular events. International Society of Pharmaceutical Outcomes Research, Orlando, FL. May 2009.

Chubak J, **Boudreau D**, Rulyak S, Mandelson M. Colorectal cancer risk in relation to antidepressant use. American Society of Preventive Oncology., Tampa, FL. March 2009. Award for Highest Scoring Abstracts.

Banta-Green C, Merrill J, Doyle S, **Boudreau D**, Donald Calsyn D. Opioid misuse, abuse, and dependence: Prevalence, measurement and factor structure among chronic pain patients & A new typology incorporating mental health and pain. The College on Problems of Drug Dependence, San Juan, Puerto Rico, June 15, 2008.

Boudreau DM, Malone DC, Raebel MA, Fishman PE, Nichols GA, Feldstein AC, et al. Health economic burden of cardiometabolic risk, presented at the University of Utah Pharmacotherapy Outcomes Research Center Second Western Pharmaceoeconomics Conference: Foundations for the Future, March 2007, Salt Lake City, UT.

Chubak J, **Boudreau DM**, Buist DSM, McKnight B, Rossing MA, Weiss NS. Approaches to reducing confounding by indication in a study of breast cancer prognosis in relation to the use of antidepressants after diagnosis. International Conference on Pharmacoepidemiology, Lisbon, Portugal, August 2006. Published in *Pharmacoepidemiol Drug Saf* 2006;15:S94.

Boudreau DM, Yu O, Miglioretti DL, Buist DM. Statins and breast cancer risk: Is there an association? 2006 Congress of Epidemiology, Seattle, WA, June 2006. Published in *Am. J Epidemiol* 2006;163:256.

Fishman PA, Bonomi AE, **Boudreau DM**. Cost Effectiveness Analysis For Behavioral Medicine, presentation to the Society for Behavioral Medicine Annual Meeting, March 2006.

Fishman PA, **Boudreau DM**, Hill A, Yu O. The Economic Impact of Managed Care Enrollees with Cardio-Metabolic Syndrome, paper presented at the American Managed Care Pharmacy Annual Meeting, April 2006 Seattle, WA.

Boudreau DM, Bonomi AE, Fishman PA. CEA at the Family Level. International Society of Pharmaceutical Outcomes Research, Florence, Italy, November 2005. Published in *Value in Health* 2005;8:A67.

Ramsey SD, Clarke L, Donato B, Sullivan SD, Varela C, Hermans N, **Boudreau DM**. Development of a web-based survey to determine practice patterns for treatment of advanced stage breast cancer in five European countries. International Society for Pharmacoconomics and Outcomes Research, Sixth Annual European Congress, Barcelona, Spain, November 2003.

Boudreau DM, Gardner JS, Malone KE, Heckbert SR, Blough DK, Daling JR. The Association between HMG-CoA Inhibitor Use and Breast Cancer Risk. International Conference on Pharmacoepidemiology, Edinburgh, Scotland, August 2002. Published in *Pharmacoepidemiol Drug Saf* 2002;11(suppl 1).

FUNDED RESEARCH

Commonly Used Medications and Breast Cancer Recurrence. NCI. 9/1/2007-8/31/2011. Total direct costs \$1,573,077. Principal investigator.

PREVIOUSLY FUNDED RESEARCH

Long-term Opioid Management of Chronic Pain: Trends and Risks. NIDA. 10/1/2006 – 4/30/2010. Total direct costs \$2,042,202. Co-investigator.

Medications and Colorectal Cancer Risk. NCI. 8/1/2004 – 7/31/2008. Total direct costs \$100,000. Principal investigator.

Prescription Opioid Misuse in a Large HMO. NIDA. 4/1/2006 – 5/31/2008. Total direct costs \$275,000. Co-investigator.

Statins and Risk of Site-Specific Cancers. NCI. 4/1/2004 – 3/31/2007. Total direct costs \$100,000. Principal investigator.

Re-Engineering the Clinical Research Enterprise: Feasibility of Integrating and Expanding Clinical Research Networks - The HMO Clinical Trials Research Network. NHLBI. 10/1/2004 - 12/30/2007. Total direct costs \$ 3,272,181. Co-investigator.

Long Term Cost and Outcomes of Breast Cancer Screening. NCI. 3/1/2004-3/28/2007. Total direct costs \$492,000. Co-investigator.

Health Economic Burden of Metabolic Syndrome. United BioSource Corporation. 10/1/2005 – 10/31/2007. Total direct costs \$325,133. Principal investigator.

HMO Research Network CERT Epidemiological Studies of the Adverse Effects of Marketed Drugs: Attention Deficit Hyperactivity Disorder (ADHD) Stimulant Drugs and Cardiovascular Outcomes. Food and Drug Administration. 5/1/2006-3/22/2008. Co-investigator.

HMO Research Network CERT Epidemiological Studies of the Adverse Effects of Marketed Drugs: Drug Use During Pregnancy. Food and Drug Administration. 4/4/2006-9/22/2008. Co-investigator.

HMO Research Network CERT Epidemiological Studies of the Adverse Effects of Marketed Drugs: Zetia. Food and Drug Administration. 12/4/2006-9/22/2008. Co-investigator.

HMO Research Network CERT Epidemiological Studies of the Adverse Effects of Marketed Drugs: A Multicenter, Observational Cohort Study To Assess the Cardiovascular Risks of Medications Prescribed for Attention Deficit Hyperactivity Disorder. Agency for Healthcare Research and Quality. 9/1/2007-2/28/2009. Co-investigator.

HMO Research Network Center for Education and Research on Therapeutics (CERT) II. Agency for Healthcare Research and Quality. 9/30/2003-9/30/2007. Co-investigator.