

Gregory S. Zaric

Canada Research Chair in Health Care Management Science
Associate Professor, Ivey School of Business
Associate Professor, Epidemiology and Biostatistics, Schulich School of
Medicine and Dentistry
University of Western Ontario
London, Ontario N6A 3K7
(519) 661-3415
gzaric@ivey.uwo.ca

EDUCATION

Ph.D., Industrial Engineering, Stanford University, 2000
M.S., Industrial Engineering, Stanford University, 1998
M.A.Sc., Management Science, University of Waterloo, 1995
B.Sc., Actuarial Science, University of Western Ontario, 1993

HONORS AND AWARDS

Research and Career

2008 Research Excellence Award, International Society for Pharmacoeconomics and Outcomes Research (ISPOR)
2008 Faculty Scholar, University of Western Ontario
2007 M.B.A. '82 Faculty Fellowship, Ivey School of Business
2006 Canada Research Chair in Health Care Management Science (renewed in 2011)
2004 Premier's Research Excellence Award, Ontario Ministry of Research and Innovation
2002 M.B.A. '80 Faculty Fellowship, Ivey School of Business
2001 Pierskalla Award in Recognition of Excellence in Health Care Management Science, Institute for Operations Research and the Management Sciences (INFORMS) Health Applications Section

Teaching

2010 Best Short Course, Society for Medical Decision Making Annual Meeting
2010 Lawrence G. Tapp Excellence in Teaching Award, Ivey School of Business, awarded by MBA class of 2010
2009 3rd Place, INFORMS Annual Case Competition for the case "The Gold Claim at Sturgeon Lake"
2008 Lawrence G. Tapp Excellence in Teaching Award, Ivey School of Business, awarded by MBA class of 2008
2002 David G. Burgoyne Award for Outstanding Commitment to Student Development, Ivey School of Business, awarded by undergraduate/HBA students
2000 Finalist, Institute for Operations Research and the Management Sciences (INFORMS) Case Competition, for "HIV and Methadone"

Dean's Commendation for Teaching in 2002, 2003, 2005, 2006, 2008

RESEARCH

Refereed Journal Articles

1. Cipriano LE, Levesque BG, **Zaric GS**, Loftus EV, Sandborn WJ, Cost-effectiveness of imaging strategies to reduce radiation-induced cancer risk in Crohn's disease, forthcoming in *Inflammatory Bowel Diseases*.
2. Malvankar M, **Zaric GS**, Incentives for optimal allocation of HIV prevention resources in a multilevel model, forthcoming in *INFOR*.
3. Zhang H, **Zaric GS**, Pharmaceutical marketing and leakage under a price-volume agreement, forthcoming in *INFOR*.
4. Xie B, DaSilva O, **Zaric GS**, Cost effectiveness analysis of the system-based approach to manage neonate jaundice and prevent kernicterus in Ontario, Canada, forthcoming in *Paediatrics & Child Health*.
5. Louie AV, Rodrigues G, Hannouf M, **Zaric GS**, Palma DA, Cao JQ, Yaremko BP, Malthaner R, Mocanu JD, Stereotactic body radiotherapy versus surgery for medically operable Stage I NSCLC: a Markov Model Based Decision Analysis, forthcoming in *International Journal of Radiation Oncology • Biology • Physics*, in press, DOI:10.1016/j.ijrobp.2010.06.040.
6. Louie AV, Rodrigues G, Hannouf M, Lagerwaard F, Palma, D, **Zaric GS**, Haasbeek C, Senan S, Withholding stereotactic radiotherapy in elderly patients with stage I non-small cell lung cancer and co-existing COPD is not justified: Outcomes of a Markov model analysis, *Radiotherapy and Oncology*, 2011, 99(2), 161-65, DOI:10.1016/j.radonc.2011.04.005
7. Reid GJ, Cunningham CE, Tobon JI, Evans B, Stewart M, Brown JB, Lent B, Neufeld RW, Vingilis ER, **Zaric GS**, Shanley DC, Help-seeking for children with mental health problems: Parents' efforts and experiences, *Administration and Policy in Mental Health and Mental Health Services Research*, 2011, 38(5), 384-97. DOI: 10.1007/s10488-010-0325-9.
8. Zhang H, **Zaric GS**, Huang T, Optimal design of a pharmaceutical price-volume agreement under asymmetric information about expected market size, forthcoming in *Production and Operations Management*, 2011, 20(3):334-346, DOI: 10.1111/j.1937-5956.2011.01219.x.
9. Lasry A, Carter, MW, **Zaric GS**, Allocating funds for HIV/AIDS: The case of kwaDukuza, South Africa, *Health Policy and Planning*, 2011, 26:33-42, DOI: 10.1093/heapol/czq022.
10. Cipriano, LE, Barth WH Jr., **Zaric GS**, The cost effectiveness of routine screening for vasa previa at 18-20 weeks gestation, *British Journal of Obstetrics and Gynecology*, 2010, 17(9):1108-18, DOI: 10.1111/j.1471-0528.2010.02621.x.
11. Huang Q, Thind A, Dreyer JF, **Zaric GS**, The Impact of ED Admission Delays on Inpatient Outcomes, *BMC Emergency Medicine*. 2010, 10:16, DOI:10.1186/1471-227X-10-16.*
* This paper has been designated as "Highly Accessed" by the journal.
12. **Zaric GS** and Xie B, A comparison of two risk sharing agreements, *Value in Health*, 2009, 12(5): 838-845, DOI: 10.1111/j.1524-4733.2009.00510.x.
13. Dreyer JF, McLeod SM, Anderson CK, Carter MW, **Zaric GS**, Physician Workload and the Canadian Triage and Acuity Scale: Results From the Predictors

- of Workload in the Emergency Room (POWER) Study, *Canadian Journal of Emergency Medicine*, 2009, 11(4): 321-329.
14. Brandeau ML, **Zaric GS**, Optimal investment in HIV prevention programs: More is not always better, *Health Care Management Science*, 2009, 12(1), 27–37, DOI 10.1007/s10729-008-9074-7.
 15. Bayoumi AM, **Zaric GS**, The cost effectiveness of Vancouver’s supervised injection facility, *Canadian Medical Association Journal*, 2008, 179(11), 1143-51, DOI:10.1503/cmaj.080808.
 16. **Zaric GS**, Optimal drug pricing, limited use conditions and stratified net benefits for Markov models of disease progression, *Health Economics*, 2008, 17(11):1277-94, DOI: 10.1002/hec.1332.
 17. Cipriano LE, Chesworth BM, Anderson CK, **Zaric GS**, An evaluation of strategies to reduce waiting times for total joint replacement in Ontario, *Medical Care*, 2008, 46(11):1177-1183.
 18. Camm JD, Magazine MJ, Polak GG, **Zaric GS**, Scheduling parallel assembly lines to minimize a shared pool of labor, *IIE Transactions*, 2008, 40(8): 749-758.
 19. **Zaric GS**, Brandeau ML, Bravata DM, Holty JC, Wilhelm ER, McDonald KM, Owens DK, Modeling the logistics of response to anthrax bioterrorism, *Medical Decision Making*, 2008 28: 332-350.
 20. **Zaric GS**, Bayoumi AM, Brandeau ML, Owens DK, The cost effectiveness of improved adherence to HAART, *Medical Decision Making*, 2008 28: 359-376.
 21. Brandeau ML, **Zaric GS**, Freiesleben J, Edwards FL, Bravata DM, An ounce of prevention is worth a pound of cure: improving communication to reduce mortality during bioterrorism responses, *American Journal of Disaster Medicine*, 2008, 3(2): 65-78.
 22. Lasry A, Carter, MW, **Zaric GS**, S4HARA: System for HIV/AIDS Resource Allocation, *Cost Effectiveness and Resource Allocation*, 2008, 6:7.*
* This paper has been designated as “Highly Accessed” by the journal.
 23. Cipriano LE, Chesworth BM, Anderson CK, **Zaric GS**, Predicting total joint replacement waiting times in Ontario, *Health Care Management Science*, 2007, 10(2): 195-215.
 24. Cipriano LE, Rupar CA, **Zaric GS**, The cost-effectiveness of expanding newborn screening for up to 21 inherited metabolic disorders using tandem mass spectrometry: results from a decision-analytic model, *Value in Health*, 2007, 10(2): 83-97.
 25. Lasry, A., **Zaric GS**, Carter MW, Multi-level resource allocation for HIV prevention: A model for developing countries, *European Journal of Operational Research*, 2007, 16(2): 786-799.
 26. **Zaric GS**, Brandeau ML, A little planning goes a long way: Multi-level allocation of HIV prevention resources, *Medical Decision Making*, 2007, 27(1):71-81.*
* This paper was the winner of the 2008 ISPOR Research Excellence Award.
 27. **Zaric GS**, Hoch JS, Medical savings accounts: Opportunities for cost savings?, *International Transactions in Operational Research*, 2006, 13(6):493-513.
 28. Bravata DM, **Zaric GS**, Holty JC, Brandeau ML, Wilhelm ER, McDonald KM, Owens DK, Reducing Mortality from anthrax bioterrorism: Strategies for stockpiling and dispensing medical and pharmaceutical supplies, *Biosecurity and Bioterrorism: Biodefense Strategy, Practice and Science*, 2006, 4(3):244-262.

29. **Zaric GS**, O'Brien BJ, Analysis of a pharmaceutical risk sharing agreement based on the purchaser's total budget, *Health Economics*, 2005, 14(8):793-803.
30. Brandeau ML, **Zaric GS**, deAngelis V, Improved allocation of HIV prevention resources using information about program effectiveness, *Health Care Management Science*, 2005, 8(1): 19-28.
31. **Zaric GS**, The impact of ignoring population heterogeneity when Markov models are used in cost effectiveness analysis, *Medical Decision Making*, 2003, 23(5), 379-96.
32. **Zaric GS**, Resource allocation for control of infectious disease epidemics, *Comments on Theoretical Biology*, 2003, 8:475-496.
33. Brandeau ML, **Zaric GS**, Richter, A, Resource allocation for control of infectious diseases in multiple independent populations: Beyond cost-effectiveness analysis, *Journal of Health Economics*, 2003, 22(4):575-598.
34. **Zaric GS**, Brandeau, ML, Dynamic resource allocation for epidemic control in multiple populations, *Mathematical Medicine and Biology*, 2002, 19(4):235-255.
35. **Zaric GS**, Random vs. nonrandom mixing in network epidemic models, *Health Care Management Science*, 2002, 5(2):147-155.
36. Barnett, PG, **Zaric, GS**, and Brandeau, ML, The cost effectiveness of buprenorphine maintenance for opioid dependence, *Addiction*, 2001, 96(9): 1267-1278.
37. **Zaric GS**, Brandeau ML, Optimal investment in a portfolio of HIV prevention programs, *Medical Decision Making*, 2001, 21(5):391-408.*
 * This paper was the winner of the Pierskalla Award in Recognition of Research Excellence in Health Care Management Science from the INFORMS Health Applications Section in 2001.
38. **Zaric GS**, Brandeau ML, Resource allocation for epidemic control over short time horizons, *Mathematical Biosciences*, 2001, 171(1):33-58.
39. **Zaric GS**, Bayoumi AM, Brandeau ML, Owens DK, The cost effectiveness of voluntary prenatal and routine newborn HIV screening in the United States, *Journal of Acquired Immune Deficiency Syndromes*, 2000, 25:403-416.
40. **Zaric GS**, Brandeau ML, Barnett PG, Methadone maintenance treatment and HIV prevention: A cost-effectiveness analysis, *Management Science*, 2000, 46:1013-1031.
41. **Zaric GS**, Barnett PG, Brandeau ML, HIV Transmission and the cost-effectiveness of methadone maintenance, *American Journal of Public Health*, 2000, 90:1100-1111.
42. **Zaric GS**, Brandeau ML, Bayoumi AM, Owens DK, The effects of protease inhibitors on the spread of HIV and the development of drug-resistant HIV strains: A simulation study, *Simulation*, 1998, 71:262-275.

Non-Refereed Articles

1. Cochran JJ, Hardin JR, Ingolfsson A, Zaric GS, Online journal gets a makeover, *OR/MS Today*, 2008, 35(4).

Book Chapters

1. **Zaric GS**, Cost effectiveness analysis, healthcare policy, and operations research models, Encyclopedia of Operations Research and Management Science.
2. **Zaric, GS**, 2004, Modeling the costs and effects of maintenance treatment for opiate addiction. In Sainfort, F., Brandeau, M., Pierskalla, W., eds., Handbook of Operations Research/Management Science Applications in Health Care, Kluwer Academic Publishers (Hillier International Series in OR/MS).

Books

1. Bell PC, **Zaric GS**, *Analytics for Managers*, 2009.

Conference Proceedings

1. Zhang H, **Zaric GS**, Promotion and Leakage under a Pharmaceutical Price-Volume Agreement, International perspectives on operations research and health care. Proceedings of the 34th Annual Conference on Operational Research Applied to Health Services, Edited by J Blake and M Carter, Toronto, 2008.
2. Malvankar M, **Zaric GS**, Incentives for Optimal Multi-level Allocation of HIV Prevention Resources, International perspectives on operations research and health care. Proceedings of the 34th Annual Conference on Operational Research Applied to Health Services, Edited by J Blake and M Carter, Toronto, 2008.
3. Lasry A, **Zaric GS**, Carter MW, Resource allocation for HIV prevention in a multi-level decision making framework. Proceedings of the 29th Meeting of the European Working Group on Operational Research Applied to Health Services. Edited by M. Dlouhý. Prague, Czech Republic: ORAHS, 2003.
4. **Zaric GS**, Brandeau ML, Bayoumi AM, Owens DK, Simulating the effects of protease inhibitors on the HIV epidemic: Treatment, compliance, and drug resistance, In Anderson JG, Katzper M, Eds. Proceedings of the 1998 Medical Sciences Simulation Conference. 1998 Western Multiconference. Society for Computer Simulation, San Diego, CA, January 11-14, 1998, 65-72.

Reports

1. Zecevic, A., McAuslan, D., Chesworth, B., Zaric, G. Salmon, A., Welch, R., Brunton, D., Wright, C., Hill J-A. & King, J. Cost of serious injurious in-hospital falls. Final report to the RNAO, May 2009.
2. Reid, G. J., Brown, J. B., Evans, B., Cunningham, C. E., Lent, B., Stewart, M. A., Neufeld, R. W., Vingilis, E. R., Zaric, G., Shanley, D., Lowe, H., Mazaheri, N., and Ure, G. Help – I need somebody: The experiences of families seeking treatment for children with psychosocial problems and the impact of delayed or deferred treatment. 2006. Ottawa, ON, Canadian Health Services Research Foundation.
3. Anderson CK, Bourne RB, Chesworth BM, Cipriano LE, Warner S, Zaric GS, Looking Forward to 2015: Comparing Wait List Management Options, Ontario Joint Replacement Registry, March 2006.
4. Dreyer JF, Zaric GS, Anderson CK, Carter MW, McLeod, SM, Predictors of Workload in the Emergency Room: The POWER Study, Phase I, Submitted to the Ontario Ministry of Health and Long Term Care, October 2005.

5. Bravata DM, McDonald K, Owens DK, Wilhelm ER, Brandeau ML, Zaric GS, Holty J-EC, Liu H, Sundaram V, Regionalization of Bioterrorism Preparedness and Response (Evidence Report/Technology Assessment No. 96 prepared by Stanford-University of California San Francisco Evidence-based Practice Center under Contract No. 290-02-0017). AHRQ Publication No. 04-E016-1 (Summary), 04-E016-2 (Full Report). Rockville, MD: Agency for Healthcare Research and Quality, 2004.

Manuscripts Under Review or In Preparation

1. Zaric GS, Xie B, Adjusting post-test predictive values for mortality.
2. Zaric GS, Brennan A, Varenbut M, Daiter J, The cost of methadone treatment in Ontario.
3. Zecevic A, Chesworth B, Zaric GS, Huang Q, Salmon A, McAuslan D, Welch R, Brunton D, Wright C, Hill J, King J, Estimating the cost of injurious falls in an acute care hospital.
4. Cipriano LE, Zaric GS, Owens DK, Brandeau ML, Cost effectiveness of screening for acute HIV and HCV infection in injection drug users.
5. Hannouf MB, Sehgal C, Cao JQ, Mocanu JD, Zaric GS, The cost-effectiveness of cetuximab plus platinum-based chemotherapy in recurrent or metastatic head and neck squamous cell carcinoma.
6. Pitman R, Edmunds J, Postma MJ, Zaric GS, Brisson M, Fisman D, Kretzschmar M, Good research practices in dynamic transmission modeling: ISPOR Task Force.
7. Delgado MK, Meng L, Mercer M, Zaric GS, Identifying Solutions to Reduce Ambulance Diversion Through Simulation Models: A Systematic Review, submitted to Academic Emergency Medicine.
8. Zhang H, Huang T, Zaric GS, Optimal Design of a Pharmaceutical Price-Volume Agreement in the Presence of Random Demand and Unobservable Marketing Effort.
9. Yan X, Zaric GS, Coordinating the influenza vaccine supply chain.
10. Hannouf MB, Xie B, Brackstone M, Zaric GS, Cost-effectiveness of a 21-gene recurrence score assay versus Canadian clinical practice in women with early-stage estrogen- or progesterone-receptor-positive, axillary lymph-node negative breast cancer.
11. Hannouf MB, Xie B, Brackstone M, Zaric GS, Cost-effectiveness of a 21-gene recurrence score assay versus Canadian clinical practice in post-menopausal women with early-stage estrogen or progesterone-receptor-positive, axillary lymph-node positive breast cancer.
12. Hannouf MB, Brackstone M, Zaric GS Frequency and cost of chemotherapy-related serious adverse effects in a Canadian cohort of women with early stage breast cancer.
13. Hannouf MB, Brackstone M, Xie B, Zaric GS, Evaluating the efficacy of current clinical practice of adjuvant chemotherapy in post-menopausal women with early-stage estrogen or progesterone-receptor-positive, one to three positive axillary lymph-node breast cancer.
14. Fournier DL, Zaric GS, Neonatal Intensive Care Unit Bed Optimization Model For British Columbia.

Published Abstracts

1. Mahjoub R, Odegaard F, Zaric GS, Modelling A Pay-For-Performance Risk Sharing Agreement (HSR-8), [Abstract], Medical Decision Making, 2011, 31(1), E72.
2. Fournier DL, Zaric GS, Optimizing the Number of Neonatal Intensive Care Unit Beds in British Columbia (HSR-16), [Abstract], Medical Decision Making, 2011, 31(1), E75.
3. Cipriano LE, Zaric GS, Owens DK, Brandeau ML, Cost Effectiveness of Screening for Acute HIV and HCV Infection in Injection Drug Users (HTA-49), [Abstract], Medical Decision Making, 2011, 31(1), E114.
4. Hannouf MB, Louie AV, Rodrigues GB, Palma DA, Cao JQ, Yaremko BP, Malthaner R, Mocanu JD, Zaric G Stereotactic Body Radiotherapy Versus Surgery for Medically Operable Stage I Non-Small Cell Lung Cancer: A Markov Model-Based Decision Analysis (JDM-77), [Abstract], Medical Decision Making, 2011, 31(1), E148.
5. Aivas I, Bielecky T, Zaric GS, Begen MB, Cao J, D'Souza D, Mahjoub R, Rodrigues GB, Lock M, Reducing Patient Wait Times for Radiation Therapy and Improving the Radiation Treatment Planning Efficiency with the Aid of a Discrete-Event Simulation Model (QMA-30), [Abstract], Medical Decision Making, 2011, 31(1), E172.
6. Reid GJ, Stewart MA, Vingilis ER, Dozois DJ, Wetmore S, Dickie G, Osmun T, Wade TJ, Brown JB, Zaric GS, Parenting matters: randomized clinical trial of a brief, minimal-contact treatment for preschool-age children with sleep problems, Sleep, 2009, 32 (Suppl S): A89-A90, Meeting Abstract: 0267.
7. The cost-effectiveness of routine screening for vasa previa at 18-20 weeks gestation in Ontario, Cipriano LE, Barth WH, Zaric GS, Value In Health, 2008, 11(3): A248-A248.
8. Lasry A, Zaric GS, Carter MW, Funding HIV prevention in developing countries: equity vs. efficiency, XVI International AIDS Conference, 2006, Abstract Number TUAD0205.
9. Lasry A, Zaric GS, Carter MW, What factors influence the funding of HIV/AIDS programs in kwaDukuza?, XVI International AIDS Conference, 2006, Abstract Number MOPE0713.
10. Zaric GS, Brandeau ML, Allocating HIV prevention resources when there are multiple levels of decision making, XVI International AIDS Conference, 2006, Abstract Number CDD1349.
11. Zaric GS, Brandeau ML, Multi-level allocation of HIV prevention resources [Abstract], Medical Decision Making, 2006, 26(1), E23.
12. Zhang H, Zaric GS, The cost-effectiveness of preventing mother-to-child transmission of HIV in China [Abstract], Value in Health, 2005, 8(3), 313.
13. Cipriano LE, Rugar CA, Zaric GS, The cost-effectiveness of expanding newborn screening for inherited metabolic disorders using tandem mass spectrometry [Abstract], Value in Health, 2005, 8(3), 298.

14. Holty JEC, Bravata DM, Liu H, Wilhelm ER, Zaric GS, McDonald KM, Owens DK, 100 years of inhalational anthrax: a systematic review of cases from 1900 to 2001 [Abstract], *Medical Decision Making*, 2005, 25(1), E25.
15. Bravata DM, Zaric GS, Holty JEC, Brandeau ML, Wilhelm ER, McDonald KM, Owens DK, The cost effectiveness of alternative strategies for stockpiling and dispensing medical and pharmaceutical supplies for a response to anthrax bioterrorism [Abstract], *Medical Decision Making*, 2005, 25(1), E5.
16. Zaric GS, Bayoumi AM, Brandeau ML, Owens DK, The cost effectiveness of counseling to improve adherence to HAART [Abstract], *Medical Decision Making*, 2003, 23(6), 570.
17. Zaric GS, Bravata DM, Cleophas-Holty J, Brandeau ML, Wilhelm EM, Sundaram V, Macdonald K, Owens DK, Modeling the logistics of responding to a large anthrax attack in the United States [Abstract], *Medical Decision Making*, 2003, 23(6), 582.
18. Zaric GS, Bayoumi AM, Brandeau ML, Owens DK, The cost effectiveness of improved adherence to antiretroviral treatment [Abstract], *Value in Health*, 2003, 6(3), 266.
19. Zaric GS, The danger of ignoring population heterogeneity when Markov models are used in cost-effectiveness analysis [Abstract], *Value in Health*, 2002, 5(3), 125.
20. Zaric GS, Brandeau ML, Optimal investment in a portfolio of HIV prevention programs [Abstract], *Medical Decision Making*, 1999, 19:523.
21. Zaric GS, Barnett PG, Brandeau ML, The cost effectiveness of methadone maintenance treatment in prevention of HIV and other causes of mortality [Abstract], *Medical Decision Making*, 1999, 19:523.
22. Zaric GS, Bayoumi AM, Brandeau ML, Owens DK, Routine screening of newborns: A cost-effectiveness analysis [Abstract], *Medical Decision Making*, 1997; 17:531.

Invited Talks & Non-Refereed Conference Presentations

1. A multi-level resource allocation model, INFORMS Annual Meeting, Austin TX, November 2010.
2. Microsoft excel: Basic skills for efficiency and modeling, Society for Medical Decision Making Annual Meeting, Toronto ON, October 2010 (with DW Hutton, LE Cipriano and E Enns).
3. Microsoft excel: Advanced skills for efficiency and modeling, Society for Medical Decision Making Annual Meeting, Toronto ON, October 2010 (with DW Hutton, LE Cipriano and E Enns).
4. Center for Business Intelligence Bio/Pharma Forum on Global Pricing and Market Access Strategies, January 21-22, 2010, Philadelphia, PA.
5. Microsoft Excel: Skills for Modeling and Efficiency (Short Course), SMDM Annual Meeting, Los Angeles CA, October 2009 (with LE Cipriano and D Hutton).
6. The cost effectiveness of the Vancouver safe injection facility, INFORMS Annual Meeting, San Diego CA, October 2009.
7. The cost effectiveness of the Vancouver safe injection facility, International Health Economics Association 7th World Congress, Beijing, July 2009.

8. The cost effectiveness of the Vancouver safe injection facility, University of Ottawa, Telfer School of Management, April 2009.
9. The cost effectiveness of the Vancouver safe injection facility, University of British Columbia, Sauder School of Business, February 2009.
10. The cost effectiveness of the Vancouver safe injection facility, The Toronto Health Economics and Technology Assessment (THETA) Collaborative, Leslie Dan Faculty of Pharmacy, University of Toronto, January 2009.
11. The cost effectiveness of the Vancouver safe injection facility, Operational Research Applied to Health Services (ORAHs) 34th Annual Meeting, Toronto, ON, July 2008.
12. The cost effectiveness of routine screening for vasa previa at 18-20 weeks gestation in Ontario, ISPOR Annual Meeting, Toronto, ON, May 2008 (Poster).
13. Predicting joint replacement waiting times in Ontario, University of Waterloo, Department of Management Sciences, November 2007.
14. An Evaluation Strategies to Reduce Waiting Times for Total Joint Replacement in Ontario, INFORMS Annual Meeting, Seattle WA, November 2007.
15. Teaching with Cases, INFORMS Annual Meeting, Seattle WA, November 2007 (with S Krishnamoorthy).
16. Microsoft Excel: Skills for Modeling and Efficiency (Short Course), SMDM Annual Meeting, Pittsburgh, PA, November 2007 (with LE Cipriano).
17. Teaching with cases, CORS Annual Meeting, London ON, April 2007.
18. Predicting joint replacement waiting times in Ontario, University of Ottawa Faculty of Management Healthcare Management Systems seminar series, April 2007.
19. Predicting joint replacement waiting times in Ontario, U.W.O. Department of Epidemiology and Biostatistics, January 2007.
20. Optimal drug pricing and formulary listing in the presence of limited use conditions and stratified net benefits SMDM Annual Meeting, Boston, MA, October 2006 (Poster).
21. Optimal drug pricing, limited use conditions and stratified net benefits for Markov models of disease progression, 69th Health Economists Study Group, York UK, July 2006.
22. Discussant - Optimising ambulance provision: a modelling approach, 69th Health Economists Study Group, York UK, July 2006.
23. Cost effectiveness analysis and decision analytic models, Kidney Research Unit, London Health Sciences Centre, July 2006.
24. Predictors of workload in the emergency room: The POWER study, Research workshop on Emergency Department operations, McGill Desautels Faculty of Management, May 2005.
25. Modeling the logistics of responding to a bioterror attack, McGill Desautels Faculty of Management, April 2005.
26. Multi-level allocation of HIV prevention resources, SMDM Annual Meeting, San Francisco, CA, October 2005.
27. Modeling the logistics of responding to a bioterror attack, presented to the U.W.O. Department of Epidemiology and Biostatistics, May 2005.
28. The cost-effectiveness of expanding newborn screening for inherited metabolic disorders using tandem mass spectrometry, ISPOR Annual Meeting, Washington, DC, May 2005 (Poster).

29. Getting started teaching with cases, First Annual Teaching of Management Science Workshop, Marlboro, MA, July 2004 (Invited, Plenary).
30. Case discussion practice (with P. Bell), First Annual Teaching of Management Science Workshop, Marlboro, MA, July 2004.
31. The cost effectiveness of opioid maintenance treatment for injection drug users, 12th Annual Conference on AIDS, Cancer, and Related Issues, St. Petersburg, Russia, May 2004 (Invited).
32. The cost effectiveness of improved adherence to HAART, 12th Annual Conference on AIDS, Cancer, and Related Issues, St. Petersburg, Russia, May 2004 (Invited).
33. Medical savings accounts in a publicly funded healthcare system: opportunities for cost savings?, CORS Annual Meeting, Banff, AB, May 2004.
34. The cost effectiveness of enhanced local preparedness for responses to bioterrorism, presented at The Centre for Evaluation of Medicines, Father Sean O'Sullivan Research Centre, St. Joseph's Healthcare Hamilton, and McMaster University, Faculty of Health Sciences, Hamilton, Ontario, March 2004 (Invited).
35. Modeling the logistics of responding to a large anthrax attack in the United States, SMDM Annual Meeting, Chicago IL, October 2003 (Poster).
36. The cost effectiveness of counseling to improve adherence to HAART, SMDM Annual Meeting, Chicago, IL, October 2003 (Poster).
37. The cost effectiveness of improved adherence to antiretroviral treatment, CORS Annual Meeting, Vancouver, BC, June 2003.
38. The cost effectiveness of improved adherence to antiretroviral treatment, SWORD Meeting, London, ON. May 2003.
39. The cost effectiveness of improved adherence to antiretroviral treatment, ISPOR Annual Meeting, Arlington, VA, May 2003 (Poster).
40. The cost-effectiveness of improved adherence to HAART, INFORMS Annual Meeting, San Jose, CA, November 2002.
41. The cost-effectiveness of alternatives to methadone maintenance treatment, INFORMS Annual Meeting, San Jose, CA, November 2002.
42. Lansink Appraisals, INFORMS Annual Meeting, San Jose, CA, November 2002.
43. Targeting and resource allocation in heterogeneous populations, CORS Annual Meeting, Toronto, ON, June 2002.
44. Lansink Appraisals, CORS Annual Meeting, Toronto, ON, June 2002.
45. Cost effectiveness analysis + population heterogeneity = economic inefficiency. Your loss is my gain, CHERA Annual Meeting, Halifax, NS, May 2002.
46. The danger of ignoring population heterogeneity when Markov models are used for cost-effectiveness analysis, ISPOR Annual Meeting, Crystal City VA, May 2002.
47. Optimal investment in a portfolio of HIV prevention programs, INFORMS Annual Meeting, Miami, FL, November 2001.
48. The cost effectiveness of opioid maintenance treatment for injection drug users, 9th Annual Conference on AIDS, Cancer, and Related Issues, St. Petersburg, Russia, May 2001 (Invited).
49. Nonrandom mixing in network epidemic models, INFORMS Annual Meeting, San Antonio, TX, November 2000
50. HIV and Methadone, presented at the INFORMS Case Competition, INFORMS Annual Meeting, San Antonio, TX, November 2000.

51. Methadone Maintenance and HIV transmission, presented to the U.W.O. Department of Epidemiology and Biostatistics, October 2000.
52. Methadone maintenance and HIV transmission, CORS, Edmonton, AB, May 2000.
53. HIV transmission and the cost-effectiveness of methadone maintenance, Society for Medical Decision Making Annual Meeting, Reno, NV, October, 1999.
54. Optimal investment in a portfolio of HIV prevention interventions, Society for Medical Decision Making Annual Meeting, Reno, NV, October 1999.
55. Resource Allocation for the Control of Epidemics Over Short Time Horizons. INFORMS, Seattle, WA, October, 1998.
56. Simulating the effects of protease inhibitors on the HIV epidemic: Treatment, compliance, and drug resistance. Society for Computer Simulation, 1998 Western Multiconference, San Diego, CA, January, 1998.
57. Routine screening of newborns: A cost-effectiveness analysis. Society for Medical Decision Making Annual Meeting, Houston TX, October, 1997.
58. The effects of buprenorphine treatment on reducing drug abuse and the spread of HIV. INFORMS, Dallas, TX, October, 1997.
59. Screening of Newborns for HIV INFORMS, San Diego, CA, April, 1997.

RESEARCH GRANTS

As a Principal Investigator

1. Economic evaluation of tests to reveal the source of cancers of unknown primary (with Co-Is M Brackstone, J Hoch, G Rodrigues, P Rogan and S Sarma), \$173,829, 2011-2014. (#231890)
2. Cost effectiveness of Oncotype in Ontario: should OHIP provide coverage? (with co-PI Bin Xie), University of Western Ontario Academic Development Fund, \$8,500, 2009 (FG08-51).
3. Optimal allocation of public sector resources, Natural Sciences and Engineering Research Council of Canada (NSERC), \$106,000, 2007-2012 (228649-2007).
4. Economic analysis of methadone programs in Ontario, Ontario Addiction Treatment Centres, \$29,100, 2006-2008.
5. Biotech Research Grant, Ivey Biotech MBA Program, \$5,000, 2005.
6. The Impact of Risk Sharing Agreements on Drug Pricing and Access, Premier's Research Excellence Award (PREA), \$150,000, 2004-2009 (PREA 10/3453).
7. Predictors of Workload in the Emergency Room: The POWER Study (with Co-Principal Investigator Jonathan F. Dreyer), Ontario Ministry of Health and Long Term Care, \$399,000, 2003-2007.
8. Resource Allocation and Population Diversity, Natural Sciences and Engineering Research Council of Canada (NSERC), \$105,000, 2002-2007.
9. M.B.A. '80 Faculty Fellowship, Richard Ivey School of Business, 2001-Present, \$2,500/year.

As a Co-Investigator

1. Canadian Health Economics Study Group, Conference 2011, Sarma SK (Principal Investigator), CIHR, 2011, \$12,817 (#236381).
2. Predicting and understanding patterns of service utilization within children's mental health agencies, Reid, G.J. (Co-PI), Stewart, S.L. (Co-PI), Barwick, M., Carter, J., Evans, B., Leschied, A., Neufeld, R., St. Pierre, J., Tobon, J., Vingilis, E., & Zaric, G. Canadian Institutes of Health Research (CIHR #220153), \$336,160, 10/2010-09/2014.
3. Econometric Analyses of Adult Obesity in Canada: Modifiable Risk Factors and Policy Implications, Sarma SK (Principal Investigator), CIHR, \$281,000, 2009-2012 (#199971).
4. Systematic Review of Economic Analyses Relating to PET Staging of Non-Small Cell Lung Cancer (NSCLC), George Rodrigues (Principal Investigator), London Regional Cancer Program Small Grants for Cancer Research and Training, \$16,192, 2008-2009.
5. Health Care Operations Research, Martin Puterman (Principal Investigator), MITACS, \$257,000, 2009-2011.
6. Parenting Matters - Helping parents with young children, Graham J. Reid (Principal Investigator), Canadian Institutes of Health Research Randomized Clinical Trials Grant (#MCT - 67816). \$60,625, 2008-2009.
7. Exploring patterns of service utilization within children's mental health agencies, Graham J. Reid and Shannon Stewart (Co-Principal Investigators), The Provincial Centre of Excellence for Child and Youth Mental Health at CHEO, \$148,549, 2008-2010 (RG-665).
8. Safe consumption sites: Potential impact and cost effectiveness in Toronto and Ottawa, Ahmed M. Bayoumi and Carol Strike (Co-Principal Investigators), Ontario HIV Treatment Network, \$292,000, 2008-2010 (ROGA282).
9. Estimating the cost of injurious falls in an acute care hospital, Aleksandra Zecevic (Principal Investigator), Registered Nurses Association of Ontario, \$79,700, 2007-2009.
10. Help – I Need Somebody: The Experiences of families seeking treatment for children with psychosocial problems and the impact of delayed or deferred treatment, Graham J. Reid (Principal Investigator), Canadian Health Services Research Foundation (CHSRF), \$200,000, 2003-2004.
11. The cost-effectiveness of treating people living with HIV: A program of research, Ahmed M. Bayoumi (Principal Investigator), Ontario HIV Treatment Network (OHTN), \$66,000, 2003-2004; renewed for 2004-2006.
12. The Causes and Relationships Between Overcrowding and Waiting in Different Emergency Departments: The CROWDED Study, Michael J. Schull (Principal Investigator), Canadian Institutes of Health Research (CIHR) and Social Sciences and Humanities Research Council of Canada (SSHRC), \$180,000, 2002-2004.
13. Optimal Methods to Improve Adherence: Individual and Population Perspectives, Ahmed M. Bayoumi (Principal Investigator), Ontario HIV Treatment Network (OHTN), \$49,000, 2000-2001.

As a Consultant

1. Using a system based analysis of patient access to total hip and knee replacement surgery in Ontario, Ontario Ministry of Health and Long Term Care, 2004-2006.
2. Regionalization of bioterrorism preparedness and response, Douglas K. Owens (Principal Investigator), Agency for Healthcare Research and Quality, 2002-2003.
3. Making Better decisions: Policy Modeling for AIDS and Drug Abuse, Douglas K. Owens (Principal Investigator), National Institutes on Drug Abuse (NIDA), 2002-2007.

TEACHING

Courses Taught

Ivey School of Business:

- Preparatory Knowledge Program, Quant Module, 2007-Present
- Business 9551, Competing with Analytics (EMBA), 2011-Present
- Business 9401 (formerly 545), Decision Making with Analytics, 2007-Present
- Business 9434, Competing with Analytics, 2011-Present
- Business 9414 (formerly 573), Pharmacoeconomics, 2007-Present
- Business 316, Management Science, University of Western Ontario, 1999-2007
- Business 467/667, End User Models, University of Western Ontario, 2004-Present
- Business 486, Financial Models in Excel, University of Western Ontario, 2001
- Business 499/699, Special Topics, University of Western Ontario, 2000-Present
- Business 816, Ph.D. Special Fields, University of Western Ontario, 2002-Present

Stanford University:

- Industrial Engineering 180, IE Senior Project, Stanford University, 1998

Graduate Student Supervision

Master's Students

Vusal Babashov (M.Sc. Student, University of Western Ontario)

Emmanuel Ewara (M.Sc. Student, University of Western Ontario)

Michael Lebenbaum (M.Sc. Student, University of Western Ontario)

Muhammad Ali (M.Sc., University of Western Ontario, 2010)

“Cost Effectiveness Analysis of Anti-EGFR Monoclonal Antibodies ”

Ching Huang (M.Sc., University of Western Ontario, 2009)

“Emergency room delays prior to admission and in-hospital health and economic outcomes”

C. Elizabeth McCarron (M.Sc., University of Western Ontario, 2006)

“Blood conservation: An economic evaluation”

Doctoral Students

Malek Hannouf (Ph.D. Student, University of Western Ontario)

“Economic evaluation of genetic testing for cancer treatment decision making”

Reza Mahjoub (Ph.D. Student, University of Western Ontario)
“Pharmaceutical Risk Sharing Agreements”
Monali Malvankar (Ph.D., University of Western Ontario 2010)
“Optimal incentives for efficient allocation of HIV prevention and treatment resources”
Hui Zhang (Ph.D., University of Western Ontario, 2008)
“Risk sharing models and pharmaceutical purchasing”
Arielle Lasry (Ph.D., University of Toronto, 2006)
“Resource allocation for HIV/AIDS in Sub-Saharan Africa”

Post-Doctoral Students

Richard Zur
Sakine Batun

Graduate Examination Committees

Rick Chan, M.Sc. in Epidemiology and Biostatistics, U.W.O., 2010.
Jing Chen, PhD. in Business, U.W.O., 2008.
Sang-Won Kim, Ph.D. in Business, U.W.O., 2006.
Nader Kabboul, M.Sc. in Epidemiology and Biostatistics, U.W.O., 2004.
Christopher K. Anderson, Ph.D. in Business, U.W.O., 2002.

External Examiner

Kai (Jackie) Zhao, Ph.D., University of Western Ontario, Economics, 2010.
Gloria Woo, Ph.D., University of Toronto, Faculty of Pharmacy, 2010.
Beste Kucukyazici, Ph.D., McGill University, Faculty of Management, 2009.

Graduate Examination Chair

Danuta Kowalik, M.Sc. in Epidemiology and Biostatistics, July 2009.
Yasser Abdelghany, Ph.D. in Civil and Environmental Engineering, August 2008.
Kirsten Fisher, Ph.D. in Political Science, August 2008.
Shannon Cartier, M.Sc. in Epidemiology and Biostatistics, Oct 2008.
Baoguo Jiang, M.Sc. in Epidemiology and Biostatistics, Sept 2007.

MBA Project Supervision

2011 – Erich Isopp (Evaluation of the ACCESS Initiative at LHSC)
2010 – Derrick Fournier (Neonatal Intensive Care Unit Bed Optimization Model
For British Columbia)
2009 – Chander Sehgal (Access to Oncology Drugs in Canada)
2009 – Eneida Pone (Formulary Access in the US)
2008 – Anuj Chandarana (Cost Effectiveness of Umbilical Cord Banking)
2006 – S.R. Frey (Quality of Life and Economic Analysis)

Guest Lectures

- Infectious Disease Models, University of Toronto Faculty of Pharmacy, 2009
- Introduction to cost effectiveness analysis in healthcare, for Clinical Epidemiology, University of Western Ontario, March 2007.
- The cost effectiveness of methadone maintenance, for Clinical Epidemiology, University of Western Ontario, March 2006.
- Introduction to Pharmacoeconomics, CIHR Strategic Training Program in Cancer Research and Technology Transfer, Ivey Business School, February 2005, March 2006.
- Introduction to Pharmacoeconomics, Biotech MBA Program, Ivey Business School, Nov. 2004, Nov. 2005
- “St. Swithin’s Hospital”, for Medical Economics, University of Western Ontario E530b, April 2003, February 2004, March 2005.
- “Introduction to Pharmacoeconomics” for CRA21, Drug Development, Basic, University of Western Ontario Centre for Continuing Studies, October, 2002, February 2004.
- “Screening Newborns for HIV” for Health Policy Modeling, Stanford University EES/OR, April 2002.

Teaching Materials Development

1. Trastuzumab in Ontario (with I. Baby and F. Odegaard).
2. Ambulance Diversion at SFGH (with L. Meng).
3. Paying for eculizumab, Ivey 9B11E017 (with R. Zur).
4. British Columbia NICU bed allocation, Ivey 9B10E016 (with D. Fournier)
5. Difficult choices – An introduction to cost effectiveness analysis, Ivey 9B10E007.
6. Shopping Lanes (with M. Leff)
7. The Gold Claim at Sturgeon Lake, Ivey 9B09E018 (with P. Bell).
8. The challenge of access to oncology drugs in Canada, Ivey 9B09E020 (with C. Sehgal).
9. Monte Carlo simulation in Excel without using add-ins, Ivey 9B09E004.
10. A note on statistics and the law, Ivey 9B09E001, (with I. Funez).
11. Western Day Care Centre: The Emery Street Expansion, Ivey 9B08E006 (with C. Xu).
12. Pulling the Goalie in Hockey, Ivey 9B08E011 (with M. Leff).
13. Williams Coffee Pub: The Franchising Opportunity, Ivey 9B07E020 (with H. Zhang).
 - Included in the book “Entrepreneurship, 3rd Edition”, by Barringer & Ireland, 2009
14. Elite Rent-a-Car, Ivey 9B07E011 (with J. Mitchell).
15. Professor Gets Engaged, Ivey 9B06E017 (with M. Leff).
16. Springbank Drive, Ivey 9B06E006 (with L. MacDonald).
17. Ernst and Young: The Western Bank Audit, Ivey 9B06E005.
18. The Ontario Formulary, Ivey 9B06E001 (with S. R. Frey).
19. Note on Statistics for Clinical Trials (with S. Stewart and J. Hatch).
20. Acushnet Canada Inc., The Bonded Warehouse Initiative, Ivey 9B05E012 (with I. Friedman).

21. Solnyx Pharmaceuticals: The Atoxeril Trial, Ivey 9B05E013 (with S. Stewart and J. Hatch).
22. Canning Consultants: The OPAC Assessment, Ivey 9B05E006.
23. Dr. Zidar, Ivey 9B04E026.
24. The Normal Distribution and the NCAA Tournament, Ivey 9B04E020 (with C. Anderson).
25. London Economic Development Corporation, Ivey 9B02E008 (with S. Allibhai).
26. Opion, Ivey 9B02E003 (with S. Allibhai).
27. Palmyra Trading Company, Ivey 9B01E022 (with A. Awaysheh).
28. HIV and Methadone, Ivey 9B00E014 (with R. McGowan).
29. Lansink Appraisals, Ivey 9B00E013.

Other

- Coordinator for Statistics and Excel portions of the Ivey Fundamental Skills Program, 2004

ACADEMIC AND PROFESSIONAL SERVICE

Editorial Work

- Associate Editor, *Operations Research*, 2006-Present
- Senior Editor, *Production and Operations Management*, 2010-Present
- Associate Editor, *Socio-Economic Planning Sciences*, 2011-Present
- Editorial Board, *Health Care Management Science*, 2008-Present
- Editorial Board, *Medical Decision Making*, 2005-2008
- Associate Editor for Cases, *INFORMS Transactions on Education*, June 2003-2008
- Ad Hoc reviewer for *AIDS*, *Annals of Internal Medicine*, *ANZIAM Journal*, *Canadian Journal of Community Mental Health*, *Canadian Medical Association Journal*, *Central European Journal of Medicine*, *Health Care Management Science*, *Health Economics*, *IIE Transactions*, *INFOR*, *INFORMS Transactions on Education*, *Institute of Medicine*, *Interfaces*, *J AIDS*, *Journal of the American Board of Family Practice*, *Journal of Infectious Diseases*, *JORS*, *Management Science*, *Medical Decision Making*, *Operations Research*, *M&SOM*, *Pharmacoeconomics*, *Preventive Medicine*, *Social Science and Medicine*, *TutORials*

Conference Organization

- Co-Chair, 2011 Canadian Health Economists Study Group Meeting (at University of Western Ontario)
- Short Courses Co-Chair, Society for Medical Decision Making, 2010-2011

Abstract Review

- Scientific Review Committee, SMDM Annual Meeting, 2004, 2005, 2006
- Judge, Best Poster Contest, ISPOR Annual Meeting: May 2001; May 2003
- ISPOR abstract review committee, February 2002

Funding Agencies

- Chair, CIHR Science to Business (S2B) Committee (2010)

- External reviewer for Israel National Institute for Health Policy & Health Services Research (2009)
- External reviewer for Canadian Foundation for Innovation (CFI) (2007)
- External reviewer for the Max Bell Foundation (2007)
- External reviewer for NSERC (2007)
- College of Reviewers, *Canada Research Chairs* Program, 2006-Present
- External reviewer for the *Doris Duke Charitable Foundation* Operation Research on AIDS Care and Treatment in Africa (DDCF ORACTA), 2005
- Ad hoc external reviewer for the U.S. *National Institutes of Health* (NIH) (2004)
- Member of *Canadian Institutes of Health Research* (CIHR) Committee “Global Health Research Program Development and Planning Grants”, 2003, 2004
- Ad hoc external reviewer for CIHR (2003)
- U.S. *National Science Foundation* (NSF) Review Panel for Operations Research and Service Enterprise Engineering, May 2002

Pharmacoeconomic Review Activities

- Pharmacoeconomic reviewer Common Drug Review Process, Canadian Agency for Drugs and Technology in Health (CADTH) (formerly CCOHTA), 2004-Present
- Pharmacoeconomic Reviewer for Cancer Care Ontario, 2005-Present
- Pharmacoeconomic Reviewer for the Ontario Ministry of Health and Long Term Care, Committee to Evaluate Drugs (formerly the Drug Quality and Therapeutics Committee), 2001-Present

The University

- Ivey Promotion and Tenure Committee, 2008-2010
- Ivey Appointments Committee, July 2006-2009
- Section Head, Ivey HBA Program, July 2004-June 2007
- Ivey Teaching Excellence Committee, 2006-2007
- Ivey HBA Program Admissions Appeals Committee, 2005
- Ivey Peer-Evaluation Committee, 2005
- Ivey “Pre-Ivey” curriculum committee, 2003
- Member of the U.W.O Health Research Council, July 2002-January 2007

Other

- Member, ISPOR-SMDM Joint Modeling Task Force, 2011
- Treasurer, Western Day Care Centre, 2006-2008
- Member of the INFORMS Bonder Scholarship Selection Committee, 2006
- Member at Large, Board of Directors, INFORMS Health Applications Section, 2002-2004
- Executive at Large, South Western Ontario chapter of CORS, 2002-2003
- Vice President, South Western Ontario chapter of CORS, 2003-2004

PROFESSIONAL AFFILIATIONS

CORS – Canadian Operations Research Society

IHEA – International Health Economics Association

INFORMS – Institute for Operations Research and Management Science
ISPOR – International Society for Pharmacoeconomics and Outcomes Research
SMDM – Society for Medical Decision Making