

Paul Vincent GROOTENDORST

DOB: July 28, 1966, Victoria, BC, Canada

<http://individual.utoronto.ca/grootendorst/>

1 Education

- **PhD (economics)** McMaster University, Hamilton ON (1995)
PhD thesis: *Effects of drug plan eligibility on prescription drug utilization among Ontario and British Columbia seniors*. Supervisor: Martin Browning
- **MA (economics)** Queen's University, Kingston ON (1990)
MA thesis: *Evidence of supplier induced demand for medical care in British Columbia*. Supervisor: Charles Beach
- **BA (honours economics)** University of Victoria, Victoria BC (1988)

2 Employment History

- **Associate Professor** (tenured), Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto ON (2002-10/present)
- **Assistant Professor**, Department of Clinical Epidemiology and Biostatistics, McMaster University, Hamilton ON (1996-10/2002-09)
- **Post-Doctoral Fellow**, Centre for Evaluation of Medicines, St. Joseph's Hospital, Hamilton ON (1995-07/1996-09)
- **Consultant**, British Columbia Ministry of Health (Pharmacare, Health Promotion and Health Economics divisions), Victoria BC (1992-06/08, 1991-06/08, 1990-06/08)

3 Awards received

- Award for best paper published in *Pharmacoepidemiology and Drug Safety* in 2011 (shared with J Leombruno, GC Nguyen, D Juurlink, T Einarson).
- John Vanderkamp Prize for the best paper published in *Canadian Public Policy* in 2005 (shared with M Veall) (2006-06)
- Premier's Research Excellence Award (2003-09)
- Rx & D Health Research Foundation – Canadian Institutes of Health Research *Research Career Award in Health Sciences* (2000-07/2005-06)
- Canadian Institutes of Health Research / Social Sciences and Humanities Research Council / National Health Research and Development Program *New Investigator Career Award* (2000-07/2005-06) (declined)

4 Present Appointments

- **Director**, Division of Social and Administrative Pharmacy, Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto ON (2008-09/present)
- **Associate Professor** (tenured), Leslie Dan Faculty of Pharmacy, and School of Public Policy and Governance, University of Toronto
- **Adjunct Professor**, Department of Economics, McMaster University, Hamilton ON

5 Research Awards

5.1 Under review

Project title: Making competition work in pharmaceutical markets
 P. Investigators: Hollis A, Grootendorst P
 Funding agency: Inaugural CIHR Foundation Grant (stage 2)
 Funding period: 2016-2022
 Total funding requested: \$500,000

5.2 Grants awarded

Project title: Developing Effective Policies for Managing Technologies for Rare Diseases
 P. Investigator: Menon D
 Co-investigators: Hollis A, **Grootendorst P**, 29 others
 Funding agency: CIHR Emerging Team Grant: Rare Diseases (2011-08-15)
 Funding period: 2012-02/2016-01
 Total funding: \$1,182,569

Project title: LOI Grant: Alternatives and supplements to patents for pharmaceutical innovation: A multi-disciplinary exploration of alternatives
 P. Investigator: Hollis A, **Grootendorst P**
 Co-investigators: Chit A, Edwards A, Kohler J, Levine DK, Nguyen TKC, Pogge T, Ware A, Willan A
 Funding agency: CIHR Programmatic grants in health and health equity
 Funding period: 2010-12/2011-03
 Total funding: \$15,000
 Brief description: We develop a protocol to assess the feasibility of using both push and pull incentives to spur pharmaceutical innovation for diseases prevalent in both developed and developing regions.

Project title: Health Technologies as a Cost-Driver in Canada
 P. Investigator: **Grootendorst P**, Nguyen H
 Co-investigators: Shim MS
 Funding agency: Strategic Policy Branch, Office of Pharmaceuticals Management Strategies, Health Canada
 Funding period: 2011-01/2011-06
 Total funding: \$62,659
 Brief description: We estimate the effect of health care technologies on health care costs in Canada.

Project title: Dental services coverage for Canada's aging population
P. Investigator: **Grootendorst P**, Quiñonez C
Co-investigators: Nguyen H
Funding agency: CIHR Pilot Projects in Aging 2010-09-30
Funding period: 2011-03/2012-02
Total funding: \$49,900
Brief description: The provision of dental care for the growing ranks of retired Canadians has emerged as an important health policy issue. We use data from various surveys from Statistics Canada to estimate (i) the fraction of Canadian households who will retain employer provided coverage into retirement; and (ii) of those without post retirement benefits, the fraction of seniors who will have difficulty affording dental care services. We also investigate the implications of affordability on retirees' use of dental care services and ultimately, their dental health.

Project title: Managing pharmaceutical expenditure: An overview and options for Canada
P. Investigator: **Grootendorst P**, Hollis A
Funding agency: Canadian Health Services Research Foundation
Funding period: 2010-08/2010-11
Total funding: \$18,000
Brief description: We review novel approaches to resolving competing objectives in pharmaceutical drug policy: innovation, access and financial sustainability.

Project title: Economic Policy, Obesity and Health: A Scoping Review
P. Investigator: Falkner G, **Grootendorst P**
Co-investigators: Ferrence R, Mendelson R, Donnelly P, Arbour K
Funding agency: Heart and Stroke Foundation
Funding period: 2009-07/2010-06
Total funding: \$100,000
Brief description: We survey the literature and consult with experts re: the use of financial incentives to curb obesity.

Project title: Assessment of the cost and equity of different catastrophic drug insurance options for Canadians
P. Investigator: **Grootendorst P**
Co-investigators: Racine JS
Funding agency: CIHR Operating Grant
Funding period: 2008-07/2010-06
Total funding: \$238,677
Brief description: We assess the ability of different forms of national drug insurance to insulate Canadians against potentially ruinous drug costs.

Project title: The cost-effectiveness of cancer drugs: Providing evidence of the value of medicines in delivering expected outcomes

P. Investigators: Hoch J, Krahn M

Co-investigators: Bell C, Gavura S, **Grootendorst P**, Hodgson D, Mamdani M, Peacock S, Sawka C, Sullivan T, Trudeau M, Woodward G

Funding agency: Drug Innovation Fund of the Ontario Ministry of Health and Long Term Care

Funding period: 2008-04/2011-03

Total funding: \$468,461 (=\$156,154 p.a.)

Brief description: Using longitudinal administrative claims data, we assess the cost, effectiveness and cost-effectiveness of several cancer drugs currently covered by the Ontario government.

Project title: Implementation of the Low Risk Ankle Rule

P. Investigator: Boutis K

Co-investigators: **Grootendorst P**, Grimshaw J, Goeree R, Schuh S, Plint A, Johnson D, Babyn P, Narayanan U, Stephens D, Sayal A, Butler N

Funding agency: PSI

Funding period: 2008-11 to 2010-10

Total funding: \$161,000

Brief description: A knowledge translation study will evaluate an implementation strategy that promotes the use of a validated paediatric ankle x-ray decision rule, the Low Risk Ankle Rule (LRAR). The effectiveness and safety of the LRAR on important clinical and health care utilization outcomes will be assessed.

Project title: Return on investment from pharmaceutical care: Measuring population-based causes and consequences of prescription drug utilization and expenditure

P. Investigator: Morgan SG

Co-investigators: Barer ML, Bassett KL, Black C, Dormuth CR, Evans RG, **Grootendorst P**, Mintzes BJ, Stukel TA, Wright JM

Funding agency: CIHR Operating Grant MOP 84390

Funding period: 2007-07/2010-06

Total funding: \$513,965 (=\$171,322 p.a.)

Brief description: Using linked, patient level records describing the use and cost of pharmaceuticals, medical services, and hospital care by all British Columbians over the period of 1996 to 2007 we will estimate the effect of pharmaceuticals use on health services use and population health.

Project title: A refined catastrophic drug coverage costing methodology

P. Investigator: **Grootendorst P**

Funding agency: Health Canada Project # 0020061930

Funding period: 2007-05/2007-06

Total funding: \$75,000

Brief description: I propose methods to estimate the cost of a proposed federally funded catastrophic drug plan in Canada.

- Project title:** Effects of 'authorized-generics' on Canadian drug prices
P. Investigator: **Grootendorst P**
Funding agency: Industry Canada/Competition Bureau Project # 8003191
Funding period: 2006-07/2007-05
Total funding: \$20,000
Brief description: I assess whether authorized-generics (generic drugs released by brand drug companies) are anti-competitive.
- Project title:** Liquid-Based Techniques for Cervical Cancer Screening
P. Investigator: Krahn M
Co-investigators: Rosen B, McLachlin M, Sanders B, **Grootendorst P**, Tomlinson G, Pham B
Funding agency: CCOHTA Project # 05-P-H0333
Funding period: 2006-02/2007-10
Total funding: \$61,600 (\approx \$35,200 p.a.)
Brief description: We conduct an economic appraisal of the use of liquid-based cytology for cervical cancer screening.
- Project title:** Social and Economic Dimensions of an Aging Population (SEDAP II) – Canada in the 21st Century: Moving Towards an Older Society
P. Investigator: Spencer B.
Co-investigators: **Grootendorst P** and others listed on <http://socserv.socsci.mcmaster.ca/sedap/teamII.htm>
Funding agency: SSHRC 2004 Major Collaborative Research Initiatives [grant 412-2004-1006]
Funding period: 2005-2010
Total funding: \$2,498,047 (\approx \$500,000 p.a.)
Brief description: Using a variety of data sources and methods we explore the implications of population aging and immigration on the health services use and health of Canadians.
- Project title:** Dynamics in prescription drug cost sharing and use of prescription drug use: analysis using the longitudinal 2000-01 National Population Health Survey.
P. Investigator: **Grootendorst P.**
Co-investigators: Levine MAH, Veall MR
Funding agency: Canadian Institutes for Health Research [grant 57803]
Funding period: 2002-10/2003-09
Total funding: \$89,771
Brief description: Using individual-level data from the longitudinal 2000-01 National Population Health Survey, we examine the effects of intertemporal and interprovincial variation in the provincial drug subsidies for seniors and social assistance recipients on overall drug use, the use of drugs specific to the management of chronic health problems amongst individuals with such problems, and individual health status. We also examine the role of income on the probability of chronic health problems, and conditional on this, the use of particular medications.

- Project title:** Evaluation of Data Sources to Support Pharmacosurveillance.
P. Investigator: Holbrook A
Co-investigators: Keshavjee K, Sebaldt R, **Grootendorst P**, Levine M, Goldsmith C, Willison D, Brogan T, Peterson R, Tennant L
Role on project: Review of statistical methods, implementation of these methods
Funding agency: Health Policy Research Program (HPRP), Research Management and Dissemination Division, Health Canada (project no. 6795-15-2001/4410013)
Funding period: 2002-07/2003-12
Total funding: \$103,800
Brief description: 1) We review statistical methods available to estimate drug effectiveness using observational data prone to selection (assignment) bias; 2) Consider the suitability of administrative claims, patient registries & electronic medical records for this purpose; 3) Compare recent post-marketing RCT evidence on efficacy of HRT as primary prevention among post-menopausal women with longitudinal observational data using a variety of adjustments to control for selection bias.
- Project title:** Federal-provincial health care policy and prescription drug spending: 1975-1998
P. Investigator: **Grootendorst P**
Co-investigators: DiMatteo L
Funding agency: Father Sean O'Sullivan Research Centre Seed Grant Award
Funding period: 2002-1/12
Total funding: \$9,000
Brief description: Using data on prescription drug expenditures, by province and source of finance (private, public) over the period 1975-2000, we assess how the design of the provincial drug benefit programs (i.e. generosity and groups covered), changes to federal patent laws, economic growth, and demographic factors have affected public and private spending on prescription drugs.
- Project title:** Effects of a prior authorization policy to restrict access to COX-2 inhibitors in a public insurance program
P. Investigator: Willison D
Co-investigators: Fortin P, **Grootendorst P**, Leloirier J, Maclure M, Marshall D, Morgan S.
Role on project: Statistical design, implementation and estimation
Funding agency: CIHR (application 89240)
Funding period: 2001-10/2003-09
Total funding: \$104,759
Brief description: We test whether restrictions on the prescribing of a new class of arthritis medications, the COX-2 inhibitors, has reduced analgesic drug costs without adversely affecting patient health and increasing health costs elsewhere. We use longitudinal patient level administrative data on the use of drugs, physician and hospital's services from 3 provincial drug plans that differ in the degree of reimbursement restrictiveness for these drugs: BC (most restrictive), Ontario, and Quebec (least restrictive).

Project title: Public and private financing: analytics, dynamics and decision-making
P. Investigator: Hurley JH
Co-investigators: Abelson J, Butler J, Cobb-Clark D, Crossley TF, Evans RG, Giacomini M, **Grootendorst P**, Stoddart G, Tamblyn R
Role on project: Statistical modeling of prescription drug use for project substudy: *Micro-econometric analysis of drug cost-sharing in Quebec* with (Hurley and Tamblyn)
Funding agency: NHRDP 6606-06-2000/2590194
Funding period: 2000-07/2003-03
Total funding: \$367,849
Brief description: Starting in August 1996, the Quebec provincial government drug plan (RAMQ) introduced public drug coverage to the general population but also introduced large co-payments and deductibles for seniors and social assistance recipients – groups which had previously enjoyed relatively comprehensive coverage. We analyze the effects of these user fees on prescription drug use, program costs, and health indicators using econometric methods which accommodate non-linear budget constraints, heterogeneity in patient-level drug use, and the longitudinal aspect of the data.

Project title: The impact of reference-based pricing of nitrates on the use of prescription drugs, hospital and physicians' services in British Columbia
P. Investigator: **Grootendorst P**
Co-investigators: Dolovich L, Holbrook AM, O'Brien BJ
Funding agency: Canadian Health Services Research Foundation [grant 97-050], BC Ministry of Health, and Brogan Inc.
Funding period: 1998-11/2001-10
Total funding: \$322,498 (CHSRF: \$107,498; BC MOH: \$140,000, Brogan Inc.: \$75,000)
Brief description: The Reference Pricing program introduced by the British Columbia Ministry of Health Pharmacare program limits reimbursement of drugs in a cluster of therapeutically similar drugs to the lowest price drug in the cluster. We assess whether the reference pricing of nitrates has lowered overall health care costs without adversely affecting the health of program beneficiaries.

Project title: The impact of reference-based pricing of calcium channel blockers and ACE inhibitors on the use of prescription drugs, hospital and physicians' services in British Columbia
P. Investigator: **Grootendorst P**
Co-investigators: Dolovich L, Holbrook AM, Levy A, O'Brien BJ
Funding agency: Health Transitions Fund [grant NA222], Drug Information Association
Funding period: 1998-11/2001-10
Total funding: \$188,500 (HTF: \$151,000; DIA: \$37,500)
Brief description: The Reference Pricing program introduced by the British Columbia Ministry of Health Pharmacare program limits reimbursement of drugs in a cluster of therapeutically similar drugs to the lowest price drug in the cluster. We assess whether the reference pricing of calcium channel blockers and ACE inhibitors has lowered overall health care costs without adversely affecting the health of program beneficiaries.

- Project title:** Global physician expenditure caps and physician services utilization: a three province study
- P. Investigator:** Hurley JH
- Co-investigators:** **Grootendorst P**, Crossley TF
- Role on project:** Statistical modeling of health services use
- Funding agency:** Medical Research Council of Canada [grant 14117], Ontario Ministry of Health
- Funding period:** 1997-04/2001-10
- Total funding:** \$232,000 (MRC: \$165,000; Ontario Ministry of Health: \$67,000)
- Brief description:** We assess the impact of a series of global physician expenditure caps applied by the Ministries of Health in Ontario, Alberta and Nova Scotia, on physician service patterns (mix and volume of services provided per patients, number of patients seen) and labour supply (hours worked, labour force participation).
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- Project title:** The effects of changes of co-payment & premium policies on use of prescription drugs in Nova Scotia Seniors' Pharmacare Program
- P. Investigator:** Kephart G
- Co-investigators:** Reudy J, **Grootendorst P**, Somers E, Hoar J
- Role on project:** Statistical modeling of prescription drug use
- Funding agency:** Canadian Health Services Research Foundation [grant 97-047], matching support from the NS Health Services Research Fund and Nova Scotia's Senior's Pharmacare Program, Nova Scotia Department of Health
- Funding period:** 1998-11/2001-10
- Total funding:** \$124,501 (CHSRF: \$41,496; Nova Scotia Government: \$83,005)
- Brief description:** We assess the impact of a series of user fees applied to prescription drugs taken by beneficiaries of the Nova Scotia Department of Health Senior's Pharmacare Program between 1990-1996 on the overall volume of drugs reimbursed, program costs, and the differential effects of the user fees on drugs used by individuals with specific diseases, and with various levels of income.
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- Project title:** Outcomes associated with formulary cost-containment strategies
- P. Investigator:** Willison D, MacLeod S
- Co-investigators:** Levine M, O'Brien B, **Grootendorst P**
- Role on project:** Literature review.
- Funding agency:** Merck-Frosst Canada
- Funding period:** 2000-01/12
- Total funding:** \$25,000
- Brief description:** We review the current literature in Canada and the United States evaluating the impact of formulary restrictions for pharmaceuticals on health care utilization and health outcomes, identifying the strengths and limitations of the methods used.

- Project title:** Do Drug Plans Matter? Effects of Drug Plan Eligibility on Drug Utilization Among the Elderly, Social Assistance Recipients and the General Population
- P. Investigator:** **Grootendorst P**
- Co-investigators:** Levine MAH
- Funding agency:** Health Transitions Fund [project NA227]
- Funding period:** 1999-03/2000-10
- Total funding:** \$122,372
- Brief description:** We assess the impact of inter-provincial variations in the generosity of public drug programs for seniors, social assistance recipients and the general population on prescription drug use, use of over the counter drugs, and physician services using longitudinal data from the Statistics Canada National Population Health Surveys.
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- Project title:** The impact of reference-based pricing on the use of prescription drugs, hospital and physicians' services in British Columbia (Pilot Study)
- P. Investigator:** **Grootendorst P**
- Co-investigators:** O'Brien BJ, Holbrook AM
- Funding agency:** Father Sean O'Sullivan Research Centre Seed Grant Award
- Funding period:** 1997-09/1998-08
- Total funding:** \$10,000
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- Project title:** Do Provincial Drug Plans Matter? Effects of Provincial Drug Plan Eligibility on Drug Utilization Among the Elderly
- P. Investigator:** **Grootendorst P**
- Co-investigators:** Anderson GA, Feeny DH
- Funding agency:** National Health Research and Development Program [grant 6606-6404-NPHS]
- Funding period:** 1997-02/1998-10
- Total funding:** \$35,611
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- Project title:** Health Utilities Index Mark 3: Is it valid for the measurement of health status and health-state utilities?
- P. Investigator:** **Grootendorst P**
- Co-investigators:** Feeny DH, Furlong W
- Funding agency:** Janssen Pharmaceutica Research Foundation
- Funding period:** 1996-04/1998-03
- Total funding:** \$12,000
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- Project title:** Efficacy, effectiveness and cost analysis of nitrate therapy for the prevention of angina pectoris
- P. Investigator:** Holbrook AM
- Co-investigators:** Dolovich L, **Grootendorst P**, Brogan T, Kitching A, Crossley TF
- Funding agency:** Canadian Coordinating Office of Health Technology Assessment [grant 6606-5678-55]
- Funding period:** 1995-01/12
- Total funding:** \$31,840

6 Scholarly and professional work

6.1 Work published or in-press (peer-reviewed)

- Shajarizadeh A, **Grootendorst P**, Hollis A. Newton's first law as applied to pharmacies: why entry order matters for generics. *International Journal of the Economics of Business*, forthcoming.
- Grootendorst P**, Nguyen VH. Intended and Unintended Effects of Restrictions on the Sale of Cigarillos to Youth: Evidence from Canada. *Tobacco Control*, forthcoming.
- Grootendorst P**, Piérard E. Do downturns cause desperation? The effect of economic conditions on suicide rates in Canada. *Applied Economics*, 2014; 46(10):1081-1092.
- de Oliveira C, Nguyen VH, Wijeyesundera H, Wong W, Woo G, **Grootendorst P**, Liu P, Krahn M. Does research pay? Estimating the payoffs from cardiovascular disease research in Canada. *CMAJ Open*, forthcoming.
- Boutis K, **Grootendorst P**, Willan A, Plint AC, Babyn P, Brison RJ, Sayal A, Parker M, Mamen N, Schuh S, Grimshaw J, Johnson D, Narayanan U. Effect of the Low Risk Ankle Rule on the frequency of radiography in children with ankle injuries. *CMAJ*. 2013 Aug 19.
- Chit A, Parker J, Halperin SA, Papadimitropoulos M, Krahn M, **Grootendorst P**. Toward more specific and transparent research and development costs: The case of seasonal influenza vaccines. *Vaccine*. 2013 Jul 3.
- Nguyen VH, de Oliveira C, Wijeyesundera H, Wong W, Woo G, **Grootendorst P**, Liu P, Krahn M. Canada's Contribution to Global Research in Cardiovascular Disease. *Canadian Journal of Cardiology* 2013; 29(6):742-6.
- Grootendorst P**, Bouchard R, Hollis A. Canada's laws on pharmaceutical intellectual property: the case for fundamental reform. *Canadian Medical Association Journal* 2012;184(5):543-9.
- Faulkner GE, **Grootendorst P**, Nguyen V, Andreyeva T, Arbour-Nicitopoulos K, Auld C, Cash S, Cawley J, Donnelly P, Drewnowski A, Dube L, Ferrence R, Janssen I, LaFrance J, Lakdawalla D, Mendelsen R, Powell L, Traill B, Windmeijer F. Economic instruments for Obesity Prevention: Results of a Scoping Review and Modified Delphi Survey. *International Journal of Behavioral Nutrition and Physical Activity* 2011; 8(109): doi:10.1186/1479-5868-8-109.
- Leombruno JP, Nguyen GC, **Grootendorst P**, Juurlink D, Einarson T. Hospitalization and surgical rates in patients with Crohn's disease treated with infliximab: a matched analysis. *Pharmacoepidemiology and Drug Safety* 2011; 20(8):838–848.
- Grootendorst P**, Quiñonez C. Equity in dental care among Canadian households. *International Journal of Health Equity* 2011; 10(14): doi:10.1186/1475-9276-10-14
- Grootendorst P**, Hollis A. The Canada-European Union Comprehensive Economic & Trade Agreement: an economic impact assessment of proposed pharmaceutical intellectual property provisions. *Journal of Generic Medicines* 2011; 8(2):81-103.
- Morgan S, **Grootendorst P**, Lexchin J, Cunningham C, Greyson D. The cost of drug development: A systematic review. *Health Policy* 2011; 100(1):4-17.
- Grootendorst P**, Hollis A, Levine DK, Pogge T, Edwards AM. New approaches to rewarding pharmaceutical innovation. *Canadian Medical Association Journal* 2011; 183:681-685.
- McLeod L, Shim M, Bereza B, **Grootendorst P**. Financial burden of household out-of-pocket expenditures for prescription drugs: Cross-sectional analysis based on national survey data. *Open Medicine* 2011; 5(1):1-9.

- Grootendorst P**, Piérard E, Shim MS. The life expectancy gains from pharmaceutical drugs: a critical appraisal of the literature. *Expert Review of Pharmacoeconomics and Outcomes Research* 2009; 9(4):353-364.
- Grootendorst P**. How should we reward pharmaceutical innovation? *Expert Review of Pharmacoeconomics and Outcomes Research* 2009; 9(4):313-320.
- Lichtenberg F, **Grootendorst P**, Van Audenrode M, Latremouille-Viau D, Lefebvre P. The impact of drug vintage on patient survival: a patient-level analysis using Quebec's provincial health plan data. *Value in Health* 2009; 12(6):847-856.
- Johnston KM, Gustafson P, Levy AR, **Grootendorst P**. Use of instrumental variables in the analysis of generalized linear models in the presence of unmeasured confounding with applications to epidemiological. *Statistics in Medicine* 2008; 27(9):1539-1556.
- Marshall D, Pericak D, **Grootendorst P**, Gooch K, Faris P, Frank C, Bellamy N, Torrance G, Feeny D. Validation of a prediction model to estimate Health Utilities Index Mark 3 utility scores from WOMAC index scores in patients with osteoarthritis of the hip. *Value in Health* 2008; 11(3):470-477.
- Kephart G, Skedgel C, Sketris I, **Grootendorst P**, Hoar J. Effects of copayments on the use of prescription drugs in the presence of annual payment limits: can potential risks to patients be reduced? *American Journal of Managed Care* 2007; 13(part 2):328-334.
- Marshall DA, Willison DJ, **Grootendorst P**, LeLorier J, Maclure M, Kulin NA, Sheehy OE, Warren L, Sykora K, Rahme E. The effects of coxib formulary restrictions on analgesic use and cost: Regional evidence from Canada. *Health Policy* 2007; 84(1):1-13.
- Bhatti T, Einarson T, Austin Z, **Grootendorst P**. The impact of financial incentives on pharmacist dispensing habits: Evidence from the British Columbia Product Incentive Plan. *Journal of Pharmaceutical Finance, Economics & Policy* 2007; 16(4):35-56.
- Bennett HA, Boon H, Romans S, **Grootendorst P**. Becoming the best mom that I can: Women's experiences of managing depression during pregnancy – a qualitative study. *BMC Women's Health* 2007; 7(13): doi:10.1186/1472-6874-7-13
- Grootendorst P**. A review of instrumental variables estimation in the applied health sciences. *Health Services and Outcomes Research Methodology* 2007; 7(3-4):159-179.
- Grootendorst P**, Marshall D, Pericak D, Bellamy N, Feeny D, Torrance G. A model to estimate Health Utilities Index Mark 3 utility scores from WOMAC index scores in patients with osteoarthritis of the knee. *Journal of Rheumatology* 2007; 34:534–42.
- Grootendorst P**, Di Matteo L. The effect of pharmaceutical patent term length on research and development and drug expenditures in Canada. *HealthCare Policy* 2007; 2(3):63-84.
- Grootendorst P**, Di Matteo L. Response to Pazderka and Schroeder. *HealthCare Policy* 2007; 2(3):95-6.
- Grootendorst P**. Disclosure of physician prescribing information and prescription drug costs: Evidence from Saskatchewan. *Journal of Pharmaceutical Marketing & Management* 2007; 17(2):61-88.
- Bhatti T, Rana Z, **Grootendorst P**. Dental insurance, income and the use of dental care in Canada. *Journal of the Canadian Dental Association* 2007; 73(1):57a-57h.
- Austin P, **Grootendorst P**, Normand SL, Anderson G. Conditioning on the propensity score can result in biased estimation of common measures of treatment effect: A Monte Carlo study. *Statistics in Medicine* 2006; 26(4):754-68.

- Austin P, **Grootendorst P**, Normand SL, Anderson G. Authors' reply. *Statistics in Medicine* 2006.
- Austin P, **Grootendorst P**, Anderson G. A comparison of the ability of different propensity score models to balance measured variables between treated and untreated subjects: A Monte Carlo study. *Statistics in Medicine* 2006; 26(4):734-53.
- Grootendorst P**, Stewart D. A re-examination of the impact of reference pricing on anti-hypertensive drug plan expenditures in British Columbia. *Health Economics* 2006; 15(7):735-42.
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- Marshall D, McGeer A, Gough J, **Grootendorst P**, Buitendyk M, Simonyi S, Green K, Jaszewski B, MacLeod SM, Low DE. Impact of antibiotic administrative restrictions on trends in antibiotic resistance. *Canadian Journal of Public Health* 2006; 97(2):126-31.
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- Grootendorst P**. The impact of an on-line pharmacy claims adjudication network on use and costs of prescription drugs: evidence from British Columbia Pharmacare. *Journal of Pharmaceutical Finance, Economics & Policy* 2005; 13(3):27-39
- Grootendorst P**. The economics of cross border trade in pharmaceuticals: theory and evidence. *Journal of Pharmaceutical Marketing & Management* 2004; 16(3):99-109.
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- Schneeweiss S, Dormuth C, **Grootendorst P**, Soumerai S, Maclure M. Net health plan savings from reference pricing for angiotensin-converting enzyme inhibitors in elderly British Columbia residents. *Medical Care* 2004; 42(7):653-60.
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- Grootendorst P**. Beneficiary cost sharing under Canadian provincial prescription drug benefit programs: History and assessment. *Canadian Journal of Clinical Pharmacology* 2002; 9:79-99.
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- Grootendorst P**, Holbrook AM. Evaluating the impact of reference-based pricing [commentary]. *Canadian Medical Association Journal* 1999; 161:273-274.
- Grootendorst P**. Health care policy evaluation using longitudinal insurance claims data: An application of the panel tobit estimator. *Health Economics* 1997; 6(4):365-382.
- Grootendorst P**, O'Brien B, Anderson GM. On becoming 65 in Ontario: Effects of drug plan eligibility on use of prescription medicines. *Medical Care* 1997; 35(4):386-398.
- Grootendorst P**, Feeny D, Furlong W. Does it matter whom and how you ask? Inter and intra-rater agreement in the Ontario Health Survey. *Journal of Clinical Epidemiology* 1997; 50:127-136.
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Book Chapters

Hollis A, **Grootendorst P**. The price of exclusivity: the economics of patent extensions and data protection. in Bryan Mercurio, ed. *Contemporary Issues in Pharmaceutical Patent Law and Policy*. London: Routledge, forthcoming.

Grootendorst P, Hollis A, Edwards A. Patents and other incentives for pharmaceutical innovation. in Anthony J Culyer, ed. *Encyclopedia of Health Economics*. London: Elsevier, 2014.

Auld C, **Grootendorst P**. Instrumental variables: informing policy. in Anthony J Culyer, ed. *Encyclopedia of Health Economics*. London: Elsevier, forthcoming 2014.

Grootendorst P. Prescription drug insurance and reimbursement. in Andrew Jones, ed. *The Elgar Companion to Health Economics*. Second Edition. Cheltenham, UK: Edward Elgar Publishing Limited, 2012, pages 114-122.

Auld MC, **Grootendorst P**. Challenges for causal inference in obesity research, in John Cawley, ed. *Handbook of the Social Science of Obesity*. New York: Oxford University Press, 2011.

Grootendorst P. Effects of 'authorized-generics' on Canadian drug prices, in Marcel Boyer, Michael Trebilcock and David Vaver, eds. *Competition Policy and Intellectual Property*. Toronto: Irwin Law Inc., 2009.

Grootendorst P. Prescription drug insurance and reimbursement. in Andrew Jones, ed. *The Elgar Companion to Health Economics*. Cheltenham, UK: Edward Elgar Publishing Limited, 2006.

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Peer Reviewed Abstracts

Holbrook A, **Grootendorst P**, Willison D, Goldsmith C, Sebaldt, Keshavjee K. Can current electronic systems meet drug safety and effectiveness requirements? AMIA 2005. Washington, DC. October 22-26, 2005.

Holbrook A, **Grootendorst P**, Willison D, Sebaldt R, Goldsmith C, Keshavjee K, Leung M, Gaebel K. Addressing Canada's National Pharmaceutical Strategy (NPS): electronic systems for pharmacosurveillance. *Canadian J Clin Pharmacol* 2005;12:e42.

Holbrook A, **Grootendorst P**, Willison D, Sebaldt R, Goldsmith C, Levine M, Keshavjee K. Evaluation of data sources to support pharmacosurveillance in Canada. *Health Canada Science Forum*, October 18-19 2004. Ottawa, Ontario.

Marshall DA, Willison D, Sykora K, Forde N, Mamdani M, **Grootendorst P**, LeLorier J, Maclure M, Morgan S, Warren L, Rahme E, Fortin PR. Impact of Administrative Restrictions for Coxibs in Quebec, Ontario and British Columbia. *Pharmacoepidemiology and Drug Safety* 2004; 13:S24. (also appears in *Canadian Journal of Clinical Pharmacology* 2004; 11(1):e77.)

Holbrook A, Goldsmith C, **Grootendorst P**, Willison D, Levine M, Gaebel K, Brogan T, Peterson R, Keshavjee. What information is required for optimal pharmacosurveillance? *Pharmacoepidemiology and Drug Safety* 2003; 12:S138-S139.

Marshall DA, McGeer A, Green K, Gough J, Laframboise M, Low D, **Grootendorst P**, Jaszewski B. Impact of changes in reimbursement policy on antibiotic resistance. *Canadian Journal of Clinical Pharmacology* 2003; 10(1):41.

Grootendorst P, Bagger J, Holbrook AM, Levine M, Smith A, Thebane L. Estimating treatment effectiveness using observational data: The case of HRT and coronary heart disease. *Canadian Journal of Clinical Pharmacology* 2003; 10(1):26.

Grootendorst P, Dolovich LR, Holbrook AM, Levy AR, O'Brien BJ. The impact of reference pricing of cardiovascular drugs on health care costs and health outcomes. *Canadian Journal of Clinical Pharmacology* 2002; 9(1):24.

Levy AR, O'Brien BJ, Sellors C, **Grootendorst P**, Willison DJ. Coding accuracy of drug claims data in the Ontario Drug Benefit database. *Canadian Journal of Clinical Pharmacology* 2001;8(1):27

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Grootendorst P, Goldsmith L, O'Brien B, Dolovich L, Hurley J. Dispensing with financial incentives: An evaluation of generic drug substitution in British Columbia. Swan WR, ed. *Exploring the Health Frontier - The Effect of Reform Initiatives on Canadian Health and Health Care: Proceedings of the 8th Canadian Conference on Health Economics*, Edmonton AB, 1999.

Levine M, **Grootendorst P**. Alendronate co-medications may limit its use. *Clinical Pharmacology and Therapeutics* 1998; 63(2):197.

Grootendorst P, Feeny D, Furlong B. Discriminative validity of the Health Utilities Index Mark 3 system (HUI3) in population health surveys: the burdens of stroke and arthritis. *Quality of Life Research* 1998; 7:601-602.

Letters to the Editor

Holbrook AM, O'Brien B, **Grootendorst P**. Letter to the editor re: Boulet AP, Tessier G. Reference-based pricing in British Columbia: Implications for cardiologists – An analysis. *Canadian Journal of Cardiology* 1997;13:640,689.

Marshall JK, **Grootendorst P**, Holbrook, A. Restricted access for PPIs not a panacea. *Canadian Medical Association Journal* 2002; 167:1102-1104.

6.2 Work completed but not yet published

Cambourieu C, Hollis A, **Grootendorst P**, Pomey M-P. *Fixation des prix des médicaments génériques au Québec*. Report prepared for the Commissaire à la santé et au bien-être, Gouvernement du Québec, July 2013. www.csbe.gouv.qc.ca.

Hollis A, Grootendorst P. Tendering generic drugs: what are the risks? Report commissioned by *Canadian Generic Pharmaceuticals Association*, October 2012.
http://www.canadiangenerics.ca/en/news/docs/10.24.12%20Tendering%20Generic%20Drugs%20-%20What%20Are%20the%20Risks_FINAL.pdf

- Grootendorst P**, Nguyen H. Health Technologies as a Cost-Driver in Canada. Final Report to the Strategic Policy Branch, Office of Pharmaceuticals Management Strategies, Health Canada, June 2011. <http://individual.utoronto.ca/grootendorst/pdf/grootendorst-et-al-final-report.pdf>
- Grootendorst P**, Hollis A. Managing Pharmaceutical Expenditure: Overview and options for Canada. Report commissioned by *Canadian Health Services Research Foundation*, Healthcare Financing, Innovation and Transformation Policy Series, February 2011. http://www.chsrf.ca/Libraries/Commissioned_Research_Reports/11-CHSRF-Paul_Grootendorst_paper_EN_FINAL.sflb.ashx
- Grootendorst P**, Rocchi M, Segal H. An economic analysis of the impact of reductions in generic drug rebates on community pharmacy in Canada. Final Report to the *Competition Bureau*, November 21, 2008. http://individual.utoronto.ca/grootendorst/pdf/Grootendorst_et_al_Pharmacy_Rebates_Report_Final.pdf
- Krahn M, McLachlin M, Pham B, Rosen B, Sander B, **Grootendorst P**, Tomlinson G, John-Baptiste A, Frikemerid M, Hong Chen M, et al.: Liquid- based techniques for cervical cancer screening: a systematic review and cost-effectiveness analysis. CADTH, Ottawa 2008. http://www.cadth.ca/media/pdf/333_LBC-Cervical-Cancer-Screening_Review_e.pdf
- Quiñonez C, Locker D, Sherret L, **Grootendorst P**, Azarpazhooh A, Figueiredo R. An environmental scan of publicly financed dental care in Canada. Community Dental Health Services Research Unit, Dental Research Institute, Faculty of Dentistry, University of Toronto, 2006. http://www.fptdwc.ca/assets/PDF/Environmental_Scan.pdf
- Holbrook A, Keshavjee K, Sebaldt R, **Grootendorst P**, Levine M, Goldsmith C, Willison D, Brogan T, Peterson R, Tennant L. Evaluation of data sources to support pharmacosurveillance. Final report submitted to the *Health Policy Research Program*, Health Canada pursuant to grant HPRP #6795-15-2001/4410013, 2004.
- Grootendorst P**, Mackeigan L, Metge C, Taylor J. An economic study on the expected impact of the Transparent Drug System for Patients Act (2006). Mimeo.
- Grootendorst P**, Levine M. Do Drug Plans Matter? Effects of Drug Plan Eligibility on Drug Use Among the Elderly, Social Assistance Recipients and the General Population. Final report to the Health Transitions Fund pursuant to grant NA227, 2000 and SEDAP research paper no. 73, 2002. (Available on-line at <http://socserv.socsci.mcmaster.ca/sedap/p/sedap73.pdf>)
- Grootendorst P**, Dolovich L, Holbrook A, Levy A, O'Brien B. The Impact of Reference Pricing of Cardiovascular Drugs on Health Care Costs and Health Outcomes: Evidence from British Columbia – Volume I: Summary. SEDAP research paper no. 70, 2002. (Available on-line at <http://socserv.socsci.mcmaster.ca/sedap/p/sedap70.pdf>)
- Grootendorst P**, Dolovich L, Holbrook A, Levy A, O'Brien B. The Impact of Reference Pricing of Cardiovascular Drugs on Health Care Costs and Health Outcomes: Evidence from British Columbia – Volume II: Technical Report. SEDAP research paper no. 71, 2002. (Available on-line at <http://socserv.socsci.mcmaster.ca/sedap/p/sedap71.pdf>)
- Willison D, Wiktorowicz M, **Grootendorst P**, O'Brien B, Levine M, Deber R, Hurley J. International experience with pharmaceutical policy: Common challenges and lessons for Canada. Final report to the Health Transitions Fund pursuant to grant NA236, 2001. Also appears as McMaster University Centre for Health Economics and Policy Analysis Working Paper 01-08, 2001. Available online at: <http://www.chepa.org/pdfs/01-08.pdf>

Willison D, **Grootendorst P**, O'Brien B, Levine M, MacLeod S. Outcomes associated with formulary cost-containment strategies: A literature review and methodological critique. Mimeo. McMaster University, August 2000.

Willison D, **Grootendorst P**, Hurley J. Variation in Pharmacare coverage across Canada. *McMaster University Centre for Health Economics and Policy Analysis Working Paper 98-08*, 1998. Available online at: <http://www.chepa.org/pdfs/98-08.pdf>

Hurley J, Feeny D, Giacomini M, **Grootendorst P**, Lavis J, Stoddart G, Torrance G. Introduction to the concepts and analytical tools of health sector reform and sustainable financing: a pre-course distance-learning module. Economic Development Institute, World Bank, 1997.

Holbrook AM, Dolovich L, **Grootendorst P**, Brogan T, Kitching A, Crossley TF. Efficacy, effectiveness and cost analysis of nitrate therapy for the prevention of angina pectoris. Final report submitted to the *Canadian Coordinating Office of Health Technology Assessment* pursuant to grant 6606-5678-55, 1996.

6.3 Work submitted for publication

Chit A, Lee JK, Shim M, Nguyen VH, **Grootendorst P**, Wu J, Van Exan R, and Langley JM. Economic evaluation of vaccines in Canada: A systematic review. Under review at *Vaccine* 2014-12.

Hollis A, **Grootendorst P**. Canada's new generic pricing policy: a reasoned approach to a challenging problem. Revised version submitted to *Healthcare Policy* 2014-11.

Hollis A, **Grootendorst P**. A comparison of mechanisms for setting generic drug prices. Under revision for resubmission to *Canadian Public Policy* 2014-06.

Pham B, Tomlinson G, **Grootendorst P**, Wijeyesundera HC, Krahn M. Calibration Analysis of Disease History Models: A Two-Stage Random Search Algorithm. 1st submission to Medical Decision Making: February 6, 2013. Revised and resubmitted to Medical Decision Making.

Pham B, Tomlinson G, **Grootendorst P**, Krahn M. Calibration Analysis of Decision-Analytic Models: A Literature Review. Submitted to Medical Decision Making: January 3, 2014.

6.4 Publications in Popular Media

Grootendorst P. Catastrophic drug coverage: A way forward. *Globe and Mail* April 5, 2011.

Grootendorst P. The payer's role – effects of drug plan design on patient compliance. *Canadian Healthcare Manager* 2002; 9(3):29.

6.5 External Presentations

Canadian Healthcare Lecture Series, McMaster University, 2015-01. Presented: "Many Canadians can't afford their drugs. Is there a solution?"

CD Howe Institute, Toronto, 2014-10. Presented: "How We Pay for Drugs: Is the Pan-Canadian Pricing Alliance on Track?"

Canadian Centre for Health Economics, Toronto, 2014-09. Presented: "Canada's pharmaceutical IP laws and Ontario Drug Benefit drug coverage decisions".

Department of Economics, University of Saskatchewan, 2014-02. Presented: "A comparison of mechanisms for setting generic drug prices".

DeGroote School of Business, McMaster University, 2014-01. Presented: "A comparison of mechanisms for setting generic drug prices".

THETA Policy Symposium, Toronto 2012-05. Presented: "Physician fee cuts and physician work effort: some research ideas"

CIRANO-INM-CHSRF Conference on Health Reform, Montreal 2011-11. Presented: "A sliding scale to reimburse generic drugs"

Canadian Pharmaceutical Policy Research Collaboration, Ottawa 2011-11. Presented: "Public drug plans' demand responses to strengthened intellectual property protection: evidence from Ontario"

International Health Economics Association Conference, Toronto, 2011-07. Discussant: Powell: "Soda Taxes and Adolescent Body Weight: Evidence from Panel Data"

Canadian Pharmaceutical Policy Research Collaboration, Halifax 2011-05. Presented: "Fifty years of new drug approvals in Canada"

Canadian Health Services Research Foundation, Healthcare Financing, Innovation and Transformation Policy Series Ottawa, 2011-02 Presented: "Policy options to support pharmaceutical innovation"; 2011-03 Presented "Innovation and Pharmaceutical Spending" via webinar

Masters of Biotechnology Program, University of Toronto, Mississauga, 2010-10 Presented: "How should we reward pharmaceutical innovation?"

Third Biennial Conference of the American Society of Health Economists, Ithaca 2010-06. Discussant: Hyppolite and Trivedi: "Alternative Approaches for Econometric Analysis of Panel Count Data using Dynamic Latent Class Models"

Canadian Health Economics Study Group, Montreal 2010-06. Discussant: Latimer: "Effects of introducing then removing cost-sharing for drugs among people with schizophrenia in Quebec: A natural experiment"

Canadian Pharmaceutical Policy Research Collaboration, Toronto 2010-05. Discussant: Hollis: "Generic drug pricing policy for Canada"

Toronto Health Economics and Technology Assessment Collaborative, Toronto 2010-02. Presented: "Instrumental variables estimation"

Canadian Pharmaceutical Policy Research Collaboration, Ottawa 2009-11. Presented: "Determinants of generic drug entry in Canada"

Canadian Health Economics Study Group, University of Waterloo, 2009-05. Discussant: Lang "The Impact of Mental Health Insurance Laws on State Suicide Rates"

Hot Topics in Health Policy Lecture Series, University of Toronto, 2008-11 Presented: "How should we reward pharmaceutical innovation?"

Masters of Biotechnology Program, University of Toronto, Mississauga, 2008-10 Presented: "How should we reward pharmaceutical innovation?"

17th European Workshop on Econometrics and Health Economics, Coimbra, 2008-09 Presented: "Distributional effects of needs based drug subsidies in Canada"

Canadian Economics Association Meetings, Vancouver, 2008-06. Presented: "Effects of 'Authorized Generics' on Canadian Drug Prices"

Canadian Economics Association Meetings, Vancouver, 2008-06. Discussant: "Effects of insurance coverage on drug access"

Canadian Health Economics Study Group, Fredericton, 2008-05. Discussant: Emery "Public Pensions and the Mortality of Seniors in Canada: Comparing Means-Tested and Universal Eligibility, 1921-1970"

Centre for Health Economics and Policy Analysis, McMaster University, Hamilton, 2008-04. Presented: "Alternatives to the patent system to spur innovation"

Centre for Evaluation of Medicines, Hamilton, 2008-01. Presented: "Prescription drug effectiveness: a re-examination of the aggregate data"

International Society for Pharmacoeconomics and Outcomes Research Meetings, Bogota, 2007-12. Presented: "The effects of drug price controls: evidence from Canada"

Department of Economics, University of Waterloo, 2007-10. Presented: "Prescription drug effectiveness: a re-examination of the aggregate data"

International Health Economics Association Conference, Copenhagen, 2007-07. Presented: "Prescription drug effectiveness: a re-examination of the aggregate data"

Canadian Economics Association Meetings, Halifax, 2007-06. Presented: "Distributional effects of needs based drug subsidies in Canada"

Competition Bureau Intellectual Property Symposium, Ottawa, 2007-03. Presented: "Effects of 'Authorized Generics' on Canadian Drug Prices"

Canadian Association for Health Services and Policy Research Meetings, Vancouver, 2006-09. Presented: "Prescription drug effectiveness: a re-examination of the aggregate data"

Canadian Economics Association Meetings, Montreal, 2006-06. Presented: "Effects of Reference Pricing of Cardiovascular Drugs on Health Outcomes"

Canadian Health Policy Implementation Initiative Meetings, King City, 2006-04. Presented: "The Current Canadian Pharmaceutical Policy Regime"

Toward a National Pharmaceuticals Strategy conference, Vancouver, 2006-02. Presented: "National catastrophic drug insurance revisited: Who would benefit from Senator Kirby's recommendations?"

Facilitators and Barriers of Conducting Methodologically Rigorous Research in Drug Policy and Medication Management in the Real World [international video conference], 2005-09
Presented: "Effects of reference pricing of cardiovascular drugs on health care costs and health outcomes"

International Health Economics Association Conference, Barcelona, 2005-07. Presented: "Cigarette taxation and obesity"

Canadian Economics Association Conference, Toronto, 2004-06 Presented: "Distributional effects of 'general population' prescription drug programs in Canada"

Canadian Health Economics Study Group, Montreal, 2004-05 &
Canadian Association for Health Services and Policy Research Inaugural conference, Montreal, 2004-05
Presented: "Patent Protection, Research and Development and Pharmaceutical Drug Expenditures: Evidence from Canada"

Symposium on Cross Border Internet Pharmacy: Public Policy Implications, Toronto, 2004-03
Presented: "Cross border trade in pharmaceuticals and Canadian pharmaceutical R&D"

12th European Workshop on Econometrics and Health Economics, Menorca, 2003-09
Discussant: Nolan "A cross sectional analysis of the utilization of GP services in Ireland: 1987-2001"

Canadian Health Economics Study Group, Banff, 2003-07
Discussant: Ferguson, Laporte "Investment in health when health is stochastic"

Social and Economic Dimensions of an Aging Population Conference, Hamilton, 2003-04
Presented: "A SEDAP perspective on immigration"

Canadian Association of Population Therapeutics Annual Conference, Quebec City, 2003-03
Presented: "Estimating treatment effectiveness using observational data: The case of HRT and coronary heart disease"

Ontario Office of Economic Policy Winter 2003 Retreat on Health Economics, Toronto, 2003-01
Presented: "Patent Protection, Research and Development and Pharmaceutical Drug Expenditures: Evidence from Canada"

Institute for Clinical Evaluative Sciences in Ontario, Toronto, 2002-11
Presented: "Estimating Treatment Effectiveness using Observational Data: The Case of HRT and Coronary Heart Disease"

Limited Use Committee, Ontario Drug Benefit Program, Toronto, 2002-10

- Presented: "Trends in Antibiotics Use, Expenditures and Resistance in Ontario before and after Quinolone Limited Use"
Conference on Economics of Health Care Reform (Sponsored by the Department of Economics, University of Manitoba), Winnipeg, 2002-10
- Presented: "Patent Protection, Research and Development, and Pharmaceutical Drug Expenditures: Evidence from Canada"
Pharmaceutical Issues Committee, Federal Provincial Territorial Advisory Committee on Health Services, Ottawa, 2002-04
- Presented: "The impact of reference pricing of cardiovascular drugs on health care costs and health outcomes"
Canadian Association of Population Therapeutics Annual Conference, Toronto, 2002-04
- Presented: "The impact of reference pricing of cardiovascular drugs on health care costs and health outcomes"
Healthy Outcomes Conference, Lake Louise, 2002-04
- Presented: "Ways to Reduce Drug Program Expenditures Without Compromising Quality"
Father Sean O'Sullivan Research Centre Symposium: Interprovincial and international comparisons of drug reimbursement policy, Toronto, 2001-11
- Presented: "A review of Canadian provincial drug subsidy programs"
10th European Workshop on Econometrics and Health Economics, London, 2001-09
- Discussant: Batalgi, Griffin "Rational addiction to alcohol: Panel data analysis of liquor consumption"
International Health Economics Association Conference, York UK, 2001-07
- Presented: "Effects of reference pricing of nitrates, ACE inhibitors and calcium channel blockers on health and health care costs"
Canadian Health Economics Research Association Conference, Toronto, 2001-05
- Presented: "The effects of reference pricing of nitrates on choice of anti-anginal drug therapy: initial results from patient-level claims data"
Health Transitions Fund Research Dissemination Workshop, Toronto, 2001-04
- Presented: "Do drug plans matter? Effects of drug plan generosity on drug use among the elderly, social assistance recipients and the general population"
Regional Health Economics Seminar Series, Ontario Ministry of Health, Toronto, 2001-03
- Presented: "The effects of reference pricing of nitrates on choice of anti-anginal drug therapy: initial results from patient-level claims data"
Department of Economics, Lakehead University, Thunder Bay, 2001-03
- Presented: "Do drug plans matter? Effects of drug plan generosity on drug use among the elderly, social assistance recipients and the general population"
Institute for Clinical Evaluative Sciences in Ontario, Toronto, 2000-09
- Presented: "Evaluation of nitrate drug discontinuation under the Reference Pricing Policy in British Columbia"
9th European Workshop on Econometrics and Health Economics, Amsterdam, 2000-09
- Discussant: Schellhorn "Effect of Variable Health Insurance Deductibles on Demand for Physician Visits"
Canadian Health Economics Research Association Conference, Edmonton, 1999-08
- Presented: "Dispensing with incentives: An evaluation of generic drug substitution policies in British Columbia"
Canadian Health Economics Research Association Conference, Edmonton, 1999-08
- Discussant: "Access to Prescription Drugs for Beneficiaries of Provincial Drug Plans in Canada"
International Health Economics Association Conference, Rotterdam, 1999-06
- Presented: "Global physician expenditure caps and individual-collective incentive conflict: physician responses in Canada"

Canadian Economics Association Meetings, Toronto, 1999-05

Presented: "Evaluation of the Reference Pricing Policy in British Columbia"

Harvard School of Public Health, Harvard University, Boston, 1999-04

Presented: "Evaluation of the Reference Pricing Policy in British Columbia"

Department of Economics, University of Alberta, Edmonton, 1999-01

Presented: "Evaluation of the Reference Pricing Policy in British Columbia"

Institute of Health Economics, Edmonton, 1999-01

Presented: "Effects of Provincial Drug Plan Eligibility on Prescription Drug Use Among Seniors using the 1994-95 National Population Health Survey"

Department of Economics, York University, North York ON, 1998-10

Presented: "Evaluation of the Reference Pricing Policy in British Columbia"

7th European Workshop on Econometrics and Health Economics, Helsinki, 1998-09

Discussant: Parkin, Rice, Sutton "Semi-parametric estimation of morbidity effects on general practitioner utilisation in the presence of time and age heterogeneity." [read by A Jones]

6th European Workshop on Econometrics and Health Economics, Lisbon, 1997-09

Discussant: Santos-Silva and Windmeijer "Stopped-sum models for health care demand."

Department of Economics, Research School of Social Sciences, Australia National University, Canberra, 1997-05

Presented: "Health policy evaluation using longitudinal insurance claims data: an application of the panel tobit estimator"

5th European Workshop on Econometrics and Health Economics, Barcelona, 1996-09

Presented: "Health policy evaluation using longitudinal insurance claims data: an application of the panel tobit estimator"

International Health Economics Association Conference, Vancouver, 1996-05

Presented: "On becoming 65 in Ontario: Effects of drug plan eligibility on use of prescription medicines"

4th European Workshop on Econometrics and Health Economics, Paris, 1995-09

Discussant: Lopez and Saez "Panel data methods for medical care demand estimation"

Canadian Economics Association Meetings, Montreal, 1995-06

Presented: "Health policy evaluation using longitudinal insurance claims data: an application of the panel tobit estimator"

School of Policy Studies, Queens University, Kingston, 1995-03

Presented: "A comparison of alternative models of prescription drug utilization"

Department of Economics, Sir Wilfred Laurier University, Kitchener, 1995-02

Presented: "A comparison of alternative models of prescription drug utilization"

3rd European Workshop on Econometrics and Health Economics, Antwerp, 1994-10

Presented: "On becoming 65 in Ontario: Effects of drug plan eligibility on use of prescription medicines"

7 Teaching

7.1 Graduate

- PHM 1132H - (course coordinator) *Applied Health Econometrics*, Dept of Pharmaceutical Sciences, University of Toronto, 2012-01/4 (taught 11/12 sessions), 2013-01/04 (taught 7/12 sessions)
- PHM 1128H - *Introduction to Models and Methods of Research in Clinical, Social and Administrative Pharmacy*, Dept of Pharmaceutical Sciences, University of Toronto, 2010-09/12 (taught 1/11 sessions), 2011-09/12 (1), 2013-09/12 (1), 2014-09/12 (1).
- PPG 2010H* - (course coordinator) *Panel Data Methods for Public Policy Analysis*, University of Toronto, 2009-01/04 (12/12)

- PHM 1126H* - (course coordinator) *The Economics of Health and Health Care*, Dept of Pharmaceutical Sciences, University of Toronto, 2005-01/04 (taught 12/12 sessions), 2006-01/04 (2), 2007-01/04 (12), 2008-01/04 (12)
- ECON 793 – *Health Economic Policy*, Dept of Economics, McMaster University, 2007-01/04 (3/12 sessions), 2008-01/04 (3/12), 2009-01 (2/12), 2010-01 (2), 2011-01 (2), 2012-01 (2), 2013-01 (2), 2014-01 (2).
- CHS-HRM 789* – (course coordinator) *Health Economics for Health Care Managers*, Faculty of Health Sciences, McMaster University, 2002-01/04 (7/12 sessions), 2001-01/04 (8), 2000-04/07 (7), 2000-01/04 (7), 1999-01/04 (8), 1998-01/04 (9), 1997-01/04 (9).
- ECON-HRM 788 – *Health Economics I*, Dept of Economics, McMaster University, 1996-09/12 (1/12 sessions), 1997-09/12 (3), 1998-09/12 (2).
- ECON-HRM 791 – *Health economics II*, Dept of Economics, McMaster University, 1999-01/04 (1/12 sessions), 2000-01/04 (4), 2001-01/04 (3), 2002-01/04 (3).

7.2 Undergraduate

University of Toronto

- PHM 110 – *Health Systems I*, 2011-09/12 (2 sessions), 2013-09/12 (1 session).
- PHM 213* – *Health Economics and Pharmacoeconomics*, 2013-01/04 (9/13 sessions), 2014-01/04 (10/13 sessions)
- PHM 227 – *Health Systems in Society I*, 2003-09/12 (1 session), 2004-09/12 (1), 2005-09/12 (1), 2006-09/12 (1), 2008-09/12 (1), 2009-09/12 (1), 2010-09/12 (1)
- PHM 425* – *Pharmacy Practice Research*, (course coordinator) 2002-09/12 (1/13 sessions), 2003-09/12 (8), 2004-09/12 (10), 2005-09/12 (10), 2006-09/12 (10), 2007-09/12 (10), 2008-09/12 (9), 2010-09/12 (10), 2011-09/12 (9), 2013-09/12 (10).
- PHM 427 – *Health Systems in Society II*, 2006-09/12 (1 session)
- PHC 489 – *Research project for pharmaceutical chemistry specialists*, 2013/14 (Janice Tang, Aaron Tran)

McMaster University

- ECON 3Z3* – *Health Economics*, McMaster University 1992-01/04, 1995-09/12.

* I had major responsibility for the design of this course.

7.3 Other Instructional activities

- Radiation Oncology & Medical Oncology Residency Training Program, McMaster University (2003) (health economics training).
- Advisor on development of a course in pharmacy practice research, Faculty of Pharmacy and Biochemistry, San Marcos University, Lima, Peru (2004)
- International Health Training program, Centre for International Health, Faculty of Medicine, University of Toronto (2005, 2006)

7.4 Student Supervision

University of Toronto

Supervisor, Post-doctoral fellowship

Van Hai Nguyen, 2009-10/2013-07: economics of dental coverage, obesity [completed]

- Logan MacLeod, 2009-09/2010-08: economics of catastrophic drug insurance [completed]
- Yuqian Lu, 2005-09/2007-08: economics of obesity [completed]
- Minsup Shim, 2006-03/2009-02: reference pricing of pharmaceuticals [completed]
- Supervisor, Pharmaceutical Sciences PhD
- Kavisha Jayasundara, 2011-09: economics of drugs for rare diseases
- Ivana Todorovic, 2008-09: impacts of changes in public drug plan procurement of generic drugs
- Ayman Chit, 2008-09/2013-08: economic aspects of vaccine development and procurement [completed]
- Doreen Au, 2004-09/2009-09: price and income sensitivity of tobacco use [completed]
- Heather Bennett, 2003-11/2007-02: health outcomes of depression during pregnancy [completed]
- Co-Supervisor, Pharmaceutical Sciences PhD
- Bassem Hamandi, 2010-09: economic evaluation of lung transplantation [with M Papadimitropoulos]
- Basil Bereza, 2011-09: economic evaluation of genetic screening [with M Papadimitropoulos]
- Supervisor, Pharmaceutical Sciences MSc
- Ethar Ismail, 2011-09/2013-12: economics of generic drug procurement [completed]
- Ivana Todorovic, 2006-09/2008-08: distributional effects of a national catastrophic drug insurance plan [completed]
- Antonio Grossi, 2003-09/2007-01: effects of reference pricing on drug costs [completed]
- Taimur Bhatti, 2004-01/2005-11: pharmacists' responses to economic incentives to dispense generic drugs [completed]
- Andrew Tam, 2004-09: spillover effects of reimbursement restrictions in large public drug plans on costs to private sector plans [withdrew from program]
- Faculty Supervisor, Industrial Pharmacy Residency Program
- Farah Hemraj, 2003/2004; Cory Cowan, 2004/2005; Mayce Al-Sukhni 2007/2008; Lucas Krajewski 2008/2009
- Faculty Supervisor, PharmD Program
- So-Hee Kang 2011; Reem Haj, 2008; Cory Cowan, 2008
- Member, Pharmaceutical Sciences PhD Thesis Committee
- Ba Pham, 2008-01/2014-10: calibration of models for economic appraisal [completed]
- John Leombruno, 2005-05: estimation of drug treatment effects using observational data [completed]
- Jennifer Pereira, 2004-04/2008-08: composite measures of medicine risk and benefit [completed]
- Yongqiang Li, 2005-05/2008-03: prediction of drug delivery using nonlinear models [completed]
- Member, Pharmaceutical Sciences MSc Thesis Committee
- Nihar Gondalia, 2013-09: open source drug development.
- Tina Papastavros, 2009-04: economic evaluation of treatments for opioid dependence
- Colin Vincente, 2002-10/2005-04: economic evaluation of glaucoma screening [completed]
- Yongqiang Li, 2004-05/2005-04: prediction of drug delivery using nonlinear models [completed]
- Thesis Committee Membership at the University of Toronto
- Carlos Quinonez, 2006-01/2009-02: political economy of dentistry in Canada (PhD; Faculty of Dentistry, Section of Community Dentistry) [completed]

Stephanie Choi, 2013-01/: burden of mental health morbidity amongst those infected with HIV (PhD; Faculty of Medicine, Institute of Medical Science)
 Mayvis Rebeira, 2013-11/: effects of public pensions on health (PhD; Institute of Health Policy, Management and Evaluation)
 Meghan McMahon, 2005-08/2007-05: estimation of the effect of obesity on health services use in Canada (MSc HPME) [completed]

McMaster University

Member, Department of Economics PhD Thesis Committee
 Emmanuel Pierard, 2002-05/2005-12: macro-economic determinants of suicide rates; empirical health production functions [completed]
 Co-supervisor, MSc Thesis in Economics
 Jesper Bagger, York University, UK, 2002-07/09: review of methods to estimate treatment effects using observational data [completed]
 Alistair Dickson, York University, UK, 1998-07/09: resolving divergence between willingness to pay and willingness to accept and implications for economic evaluation [completed]
 Pekka Paunio, York University, UK, 1996-07/09: a survey of welfare measures in economic evaluation [completed]
 Paul Contoyannis, York University, UK, 1995-07/09: price sensitivity of tobacco use [completed]

Other

Ali Shajarizadeh, 2013-11/: competition in pharmaceutical markets in Canada (PhD; Department of Economics, University of Calgary)

8 Service

University of Toronto

Committee Membership
 Joint Health and Safety Committee (2014-01/)
 Committee for Entry to Practice Professional Degree Programs (2012-12/)
 Curriculum and Assessment Subcommittee (2013-09/)
 Academic Leadership Committee (2012-12/)
 Research Advisory Committee (2011/)
 Chair, Undergraduate Pharmacy Ethics Committee (2006-02/)
 Graduate and Postgraduate Committee, Faculty of Dentistry (2007-09/2009-6)
 Cross-Appointment Committee (2008-09/)
 Graduate Admissions (2007-09/2008-08)
 Undergraduate Pharmacy Awards Committee (2006-09/)
 Pharmacy Library and Information Services Committee (2007-03/)
 Pharmacy Animal Care Committee (2003-12/2006-05)
 Pharmacy Undergraduate Admissions Committee (2003/2012)
 Graduate Research in Progress Committee (Assistant Chair: 2003-09/2004-08, Chair: 2004-09/2007-05)
 Ad Hoc Committee Membership
 Internal Reading Committee for Tenure review (2009-11)
 TA funding allocation and student travel funding (2008-11)
 Advisory Committee for the Appointment of a Dean, Faculty of Pharmacy (2008-06)
 PTR Committee (2007-05)

Review committee, U of T employee experience survey (2006-07), U of T *Bulletin* (2007-08)

Overhead Committee (2003-10)

PharmD appeals committee (2003-06)

Graduate Department of Pharmaceutical Sciences SSHRC Ranking Committee (2003-10-24)

Social and Administrative Pharmacy Hiring Committees (2003-04/)

Other

Faculty Liaison, Industrial Pharmacy Residency Program (ESI Canada, 2003-08/)

Faculty Liaison, St Joseph's Hospital Pharmacy Residency Program (2007-12/)

Board of Directors, Faculty Club (2005-09/2008-08)

Student Examination

Chair, Various Thesis Examination Committees

Internal examiner, PhD Thesis (Mina Tadrous, Pharm Sci, 2014-12)

Internal examiner, PhD Thesis (Greg Payne, HPME, 2010-05)

Internal examiner, PhD Qualifying Exam (Yeesha Poon, Pharm Sci, 2013-10)

Internal examiner, PhD Qualifying Exam (Andrea Burden, Pharm Sci, 2011-01)

Examiner, MSc Thesis (Monica Yu, IHPME, 2013-09)

Internal examiner, MSc Thesis (Nina Lathia, Pharm. Sci., 2008-03)

Internal examiner, MSc Thesis (Hamid Sadri, Pharm. Sci., 2004-08)

McMaster University

Committee Membership

Clinical Health Sciences (Health Research Methodology) MSc Admissions Committee (2000-01/2002-09)

CHS (HRM) Graduate Education Committee (2000-08/2002-09)

Chair, Committee on Academic Cross-fertilization in CE&B (2002)

Health Sciences Library Users Committee (2001-10/2002-09)

Chair, Department of Clinical Epidemiology and Biostatistics Special Events

Programming Committee (2002)

FSORC Seed Grant Competition Review Committee (2001-04/2002-09)

Student Examination

CHS (HRM) MSc Comprehensive Examination Committee (2002-03/2002-09)

CHS (HRM) MSc Thesis Committee: Gord Blackhouse (2001) (Internal Reader); Lisa Dolovich (1998), Nicole Brazier (2002) (Internal Observer)

CHS (HRM) PhD Comprehensive Examiner: Sue Whittaker (2002)

Department of Economics PhD Comprehensive Examination Committee (Health Economics) (2000-08/2002-09)

Referee

Academic Journals

American Journal of Managed Care; Annals of Internal Medicine; The B.E. Journal of Economic Analysis & Policy; BMC Health Services Research; Canadian Journal of Clinical Pharmacology; Canadian Journal of Economics; Canadian Journal of Public Health; Canadian Medical Association Journal; Canadian Public Policy; Centre for Health Economics and Policy Analysis Working Paper Series; Communications in Statistics – Theory and Methods; Eastern Economic Review; Economics and Human Biology; European Journal of Health Economics; Expert Review of Pharmacoeconomics & Outcomes Research; Globalization and Health; Government and Policy C; Headache; Health Affairs; Health and Canadian Society; Health Care Management Science; Health Economics; Health Economics, Policy and Law; Health Policy; Healthcare Policy; Health Reports; Health

Services and Outcomes Research Methodology; Health Services Research; International Journal for Equity in Health; International Journal of Health Care Finance and Economics; International Journal of Public Health; Journal of Applied Economics; Journal of Clinical Epidemiology; Journal of General Internal Medicine; Journal of Health Economics; Journal of Mental Health Policy and Economics; Journal of Population Therapeutics and Clinical Pharmacology; Journal of Rheumatology; Medical Care; Medical Decision Making; Open Medicine; Pharmaceutical Development and Regulation; Pharmacoeconomics; Pharmacoepidemiology and Drug Safety; PLoS ONE; Quality of Life Research; Review of Income and Wealth; R&D Management; Scottish Journal of Political Economy; Social Science and Medicine; Value in Health.

Funding Agencies

Qatar National Research Fund (2011); MITACS Doctoral Fellowship (2010); Alberta Heritage Foundation for Medical Research (2009); Canadian Institutes of Health Research (CIHR) Health Research Salary (A) Committee (2009-01/2011); CIHR External Review (2005); CIHR Health Research Training (A) Committee (2000-07/2003-06); CIHR Post Market Drug Safety and Effectiveness (DSA) – Winter 2010 Competition; UK Medical Research Council (2008); Michael Smith Foundation for Health Research (2005-03, 2006-04); Heart and Stroke Foundation of Canada (2002); Australian Research Council (2002); Canadian Health Services Research Foundation (2002-03, 2004-12, 2005-04); CIHR/SSHRC/NHRDP Health Career Awards Program (2000-04,11); Social Sciences and Humanities Research Council of Canada (1999-1); Canadian Coordinating Office for Health Technology Assessment (1997-4); Canadian Health Services Research Foundation (2000-2); Medical Research Council of Canada (1998-5, 1997-10); National Health Research and Development Program (1998-1, 1997-11)

Academic Prizes

Kenneth J. Arrow Award Committee of the International Health Economics Association (2009/present)

Tenure Review

University of Aberdeen (2010), McMaster University (2009, 2 reviews), University of British Columbia (2009), University of Manitoba (2006)

Graduate Thesis

External examiner, PhD Thesis: Theresa Longobardi, York University, 2003-05; Van-Hai Nguyen, Concordia University, 2009-08; Zhe Ren, Dalhousie University, 2011-01.
External examiner, MSc Thesis: Sumeet Singh, McMaster University, 2003-09.

Conference Program Committees

Canadian Health Economics Study Group (CHESG) meetings (2005/present); Canada's Research-Based Pharmaceutical Companies (Rx&D) Annual Policy Conference; International Health Economics Association (IHEA) World Congress 2007, 2009; Annual Health Econometrics Workshop (2009/present); Conference of the Canadian Association for Health Services and Policy Research (2004, 2006, 2007); Canadian Health Economics Research Association Conference (2000/2002).

Conference Organization

2014 Annual Health Econometrics Workshop; 2011 International Health Economics Association (iHEA) World Congress; Merck Frosst Distinguished Speaker Series in Health Economics (2000/2003); CHESG meetings (2005)

Professional Associations

iHEA Scope and Scientific Excellence Sub-Committee (2014-06)

Editorial Boards

Editorial Board, *Canadian Public Policy* (2000/2012)

Editorial Board, *Health Economics* (2005/2006)

Associate Editor, *Health Economics* (2007/present)

Data & Safety Monitoring Boards

Norman WV, (PI) "Better Contraceptive Choices: Immediate vs Interval insertion of Intrauterine Contraception after Second trimester Abortion" (2010/2012)

Advisory Boards

Allergan Canada (2008/2010); Bayer Canada (2009/present); Merck Frosst Canada (2007/2010); Expert Working Group on Drug Expenditures, Canadian Institute for Health Information (2003/2004, 2007/2008, 2011/); SSHRC and Statistics Canada Research Data Centre Access Committee (2001-01/present); Patented Medicine Prices Review Board (PMPRB) Working Group on Costs of Making and Marketing (2008-05); Rx&D Policy Advisory Board (2008/2011)

9 Expert Testimony

I have provided expert testimony and/or reports in legal proceedings on behalf of the Department of Justice, as well as for brand and generic drug manufacturers.

10 Media Interviews

I have provided commentary in print (CBC Online, Globe and Mail, Canadian Press), TV (CBC News, Lang and O'Leary Exchange, Business News Network, Radio Canada) and radio interviews.