

Annual Report
Division of Clinical Epidemiology
Department of Medicine - Jewish General Hospital
January 1 - December 31, 2012

SUMMARY

1. Research and publications:

Total of new funding awarded this year: \$449,250. 29 publications were published in 2012

Dr. Samy Suissa is the Principal Investigator of the Canadian Network on Observational Drug Effect Studies (CNODES), and oversees funding of \$17.5 million received from CIHR for this network. CNODES assembles the top pharmaco-epidemiologists in the country and uses a collaborative, population-based approach, exploiting existing healthcare databases across the country and using sophisticated, cutting edge and powerful analytical methods to rapidly evaluate the risks and benefits of medications on the health of Canadians.

Dr Suissa was awarded his renewal for the James McGill Professor Award for another 7 years. He is also a co-investigator on 6 CIHR grants entitled:

- 1) Drospirenone-containing combined oral contraceptives and the risk of Arterial thrombosis;
- 2) The use highly prolactin-elevating antipsychotics and the risk of ovarian and endometrial cancer;
- 3) Post-marketing drug safety and effectiveness in patient populations underrepresented in Clinical Drug Trials;
- 4) The use of glyburide and the risk of cancer in elderly patients with type 2 diabetes;
- 5) Propensity scores and marginal structural models in drug safety research;
- 6) The cardiovascular safety of varenicline: a population-based cohort study.

Dr. Filion was awarded two CIHR operating grant (2 years) as principal investigator entitled "Drospirenone-containing combined oral contraceptives and the risk of arterial thrombosis" and "The cardiovascular safety of varenicline: a population-based cohort study". He is also a co-investigator on one grant awarded by CIHR entitled "A systematic review and meta-analysis of the safety of combined oral contraceptives" and also one grant awarded by the LDI Clinical Research Pilot Project (CLIPP) entitled "Administration of fixed-dose versus weight-based dose of heparin in patients with ST-segment elevation myocardial infarction undergoing primary percutaneous coronary intervention".

2. Teaching and learning (undergraduate and graduate):

Dr. Samy Suissa teaches Advanced Epidemiology in the Department of Epidemiology and Biostatistics. He also leads the Pharmacoepidemiology Summer Program which holds 4 courses each summer and in which he himself teaches the Advanced Pharmacoepidemiology course.

Dr. Kristian Filion teaches in the Department of Epidemiology and Biostatistics. He taught the Unit 8 - Epidemiology Small Group Leader (Second Year Medical Students), was a Co-Instructor in the course entitled "Systematic Reviews and Meta-Analyses" and a Guest Lecturer in the course entitled "Introduction to Epidemiology".

3. Involvement in the community:

- Member, External Advisory Board, PROTECT-European Medicines Agency, 2012-
- Member, Drug Safety and Effectiveness Network (DSEN) Interim Science Advisory Committee (ISAC), Canadian Institutes for Health Research, 2011-
- Associate Editor, Methodological Advisor, European Respiratory Journal, 2007-
- Section Head, Statistical methodologies & health informatics, Faculty of 1000 Medicine, 2005-
- Associate Editor, Pharmacoepidemiology and Drug Safety, 2003-

4. Partnerships:

- Summer Course on Pharmacoepidemiology and Drug Safety. Utrecht, Netherlands.
- Research and training collaboration, Clalit Health, Israel

5. Milestones:

There has been no change in staffing.

6. Honours, awards, and prizes:

In its year-end review, the editors of Thorax awarded the paper by Suissa et al. on the natural history of COPD its gold medal for research on adult lung disease, calling the authors “the best sort of epidemiologists . . . They ask important and highly clinically relevant questions and provide answers that change the way we think about disease.”

Dr. Filion is now a Fellow of the American Heart Association. He was also awarded a new investigator salary award from the CIHR. Because of this award, he declined the award of “Chercheur-Boursier Junior 1” from the Fonds de la Recherche du Québec.

7. Fundraising:

The CNODES grant allows Dr Suissa to transfer 100,000 per year to the Faculty of Medicine to free up his time, which permitted the McGill Department of Epidemiology and Biostatistics to recruit a biostatistician, Dr Olli Saarela, for the next four years.

SECTION I - DIVISION STATUS UPDATE

1. Mission and objectives of the Division

The Division of Clinical Epidemiology is still a recent addition to the JGH Department of Medicine and now includes three members, Dr Kristian Filion and Dr Samy Suissa, the Chief of the Division.

2. A nominative list of academic staff, their academic rank

Dr. Kristian Filion – Assistant Professor - active
Dr. Samy Suissa – Professor - active

SECTION II - GRANTS, PUBLICATIONS, AND SERVICE OUTSIDE OF MCGILL

1. Grants and awards received

Filion, Kristian - Awards

- 1) 2012-2017: **CIHR Young Investigator Award**. A population-based evaluation of the cardiovascular safety of medications. (FRSQ Chercheur boursier junior 1 (declined).

Filion, Kristian – New grants

- 1) 2012-2015 : **Principal Investigator**, Fonds de la Recherche du Québec – Santé. *Une évaluation populationnelle des effets cardiovasculaires indésirables des médicaments (Établissement de jeunes chercheurs - Juniors 1)*. [A population-based evaluation of the cardiovascular safety of medications. (Young Investigator Establishment Award)] - \$45,000
- 2) 2012-2014: **Principal Investigator**, Canadian Institutes of Health Research. Drospirenone-containing combined oral contraceptives and the risk of arterial thrombosis. (Operating Grant) - \$154,530
- 3) 2012-2014: **Principal Investigator**, Canadian Institutes of Health Research. The cardiovascular safety of varenicline: a population-based cohort study. (Operating Grant) - \$144,720
- 4) 2012-2014: **Co-Investigator**, LDI Clinical Research Pilot Project (CliPP) Funding Initiative. Administration of fixed-dose versus weight-based dose of heparin in patients with ST-segment elevation myocardial infarction undergoing primary percutaneous coronary intervention. - \$24,880
- 5) 2012-2013: **Co-Investigator**, Canadian Institutes of Health Research. A systematic review and meta-analysis of the safety of combined oral contraceptives. (Operating Grant) - \$47,250

Suissa, Samy – New grants

- 6) 2012-2019 Principal Investigator, James McGill Professor Award, McGill University (\$105,000)
- 7) 2012-2014 Co-investigator, The use highly prolactin-elevating antipsychotics and the risk of ovarian and endometrial cancer. Canadian Institutes for Health Research (117,400)
- 8) 2012-2013 Co-investigator, Catalyst Grant: Post-marketing drug safety and effectiveness in patient populations underrepresented in Clinical Drug Trials. Canadian Institutes for Health Research (99,750)
- 9) 2012-2013 Co-investigator, The use of glyburide and the risk of cancer in elderly patients with type 2 diabetes. Canadian Institutes for Health Research (99,750)
- 10) 2012-2015 Co-investigator, Propensity scores and marginal structural models in drug safety research Canadian Institutes for Health Research (405,940)

Suissa, Samy - Currently held Grants

- 1) Principal Investigator, Canadian Network for Observational Drug Effect Studies (CNODES) Canadian Institutes for Health Research (17,500,000) 2011-15
- 2) Principal Investigator, Multiple medication use in the Quebec elderly and the risk of motor vehicle crash. Canadian Institutes for Health Research (271,489) 2010-14
- 3) Co-investigator, Statins and the prevention of recurrence and mortality in men with prostate cancer, Canadian Institutes for Health Research (134,370) 2011-13

2. Scholarly works published in the 2012 calendar year:

Filion, Kristian

- 1) Huxley RR, Alonso A, Lopez FL, Filion KB, Agarwal SK, Loehr LR, Soliman EZ, Pankow JS, Selvin E. Diabetes, glucose homeostasis and incident atrial fibrillation: the Atherosclerosis Risk in Communities Study. *Heart* 2012; 98:133-138.
- 2) Friedland SN*, Leong A*, Filion KB, Genest J, Lega IC, Mottillo S, Poirier P, Reoch J, Eisenberg MJ. The cardiovascular effects of peroxisome proliferator-activated receptor agonists. *Am J Med* 2012; 125:126-33.

- 3) Garfinkle M, Lawler P, Filion KB, Eisenberg MJ. Red blood cell transfusion and mortality among patients with acute coronary syndromes: a systematic review. *Int J Cardiol* 2012 Feb 1. [Epub ahead of print].
- 4) Miller CS, Grandi SM, Shimony A, Filion KB, Eisenberg MJ. Meta-analysis of efficacy and safety of new oral anticoagulants (dabigatran, rivaroxaban, apixaban) versus warfarin in patients with atrial fibrillation. *Am J Cardiol.* 2012; 110:453-60.
- 5) Azoulay L, Yin H, Filion KB, Assayag J, Majdan A, Pollak M, Suissa S. The use of Pioglitazone and the risk of bladder cancer in patients with type 2 diabetes. *BMJ* 2012; 344:e3645.
- 6) Desplantie O, Filion KB, Eisenberg MJ. Perspectives on the clinician-scientist pathway: a survey of cardiology fellows. *Can J Gen Intern Med (In Press)*
- 7) Benbarkat H, Addetia K, Eisenberg MJ, Sheppard R, Filion KB, Michel C. Application of the Seattle Heart Failure model in patients > 80 years of age enrolled in a tertiary care heart failure clinic. *Am J Cardiol.* 2012; 110:1663-6.

Suissa, Samy

- 1) Ernst P, Suissa S. [Review] Systemic effects of inhaled corticosteroids. *Curr Opin Pulm Med* 2012;18(1):85-89.
- 2) Suissa D, Brassard P, Smiechowski B, Suissa S. Number needed to treat is incorrect without proper time-related considerations. *J Clin Epidemiol* 2012;65(1):42-46.
- 3) Renoux C, Dell'Aniello S, Brophy JM, Suissa S. Dopamine agonist use and the risk of heart failure. *Pharmacoepidemiol Drug Saf* 2012;21(1):34-41.
- 4) Platt RW, Delaney JA, Suissa S. The positivity assumption and marginal structural models: the example of warfarin use and risk of bleeding. *Eur J Epidemiol* 2012;2(2012):77-83.
- 5) Pines A, Shapiro S, Suissa S. NNT, number needed to treat: does it have any real value ? *Climacteric* 2012;15(2):139-42.
- 6) Dixon WG, Abrahamowicz M, Beauchamp ME, Ray DW, Bernatsky S, Suissa S, Sylvestre MP. Immediate and delayed impact of oral glycocorticoid therapy on risk of serious infection in older patients with rheumatoid arthritis: a nested case-control analysis. *Ann Rheum Dis* 2012;71(7):1128-1133.
- 7) Azoulay L, Dell'Aniello S, Simon TA, Langleben D, Renoux C, Suissa S. A net clinical benefit analysis of warfarin and aspirin on stroke in patients with atrial fibrillation: nested case-control study. *BMC Cardiovascular Disorder* 2012;12(1):49.
- 8) Azoulay L, Yin H, Filion KB, Assayag J, Majdan A, Pollak MN, Suissa S. The use of pioglitazone and the risk of bladder cancer in people with type 2 diabetes: nested case-control study. *British Medical Journal.* 2012;344:e3645. Doi: 10.1136/bmj.e3645.
- 9) Wilchesky M, Ernst P, Brophy JM, Platt RW, Suissa S. Bronchodilator use and the risk of arrhythmia in COPD: Part 1: Saskatchewan Cohort Study. *Chest* 2012;142(2):298-304.
- 10) Wilchesky M, Ernst P, Brophy JM, Platt RW, Suissa S. Bronchodilator use and the risk of arrhythmia in COPD: Part 2: Reassessment in the Larger Quebec Cohort. *Chest* 2012;142(2):305-311.
- 11) Suissa S, Henry D, Caetano P, Dormuth CR, Ernst P, Hemmelgarn B, LeLorier J, Levy A, Martens PJ, Paterson M, Platt RW, Sketris I, Teare G; for the Canadian Network for Observational Drug Effect Studies (CNODES). *Open Medicine* 2012;6(3)e134.
- 12) Le Ray I, Dell'Aniello S, Bonnetain F, Azoulay L, Suissa S. Local estrogen therapy and risk of breast cancer recurrence among hormone-treated patients: a nested case-control study. *Breast Cancer Research Treatment* 2012;135(2):603-609.

- 13) Suissa S. Randomized trials built on sand: examples from COPD, hormone therapy and cancer. *Rambam Maimonides Med J* 2012;3(3):e0014.
- 14) Orriols L, Queinec R, Philip P, Gadegbeku B, Delorme B, Moore N, Suissa S, Lagarde E; for the CESIR Research Group. Risk of injurious road traffic crash after prescription of antidepressants. *J Clin Psychiatry* 2012;73(8):1088-1094.
- 15) Ernst P, Renoux C, Dell’Aniello S, Suissa S. Pramipexole use and the risk of pneumonia. *BMC Neurology* 2012;12(1):113.
- 16) Lapi F, Wilchesky M, Kezouh A, Benisty J, Ernst P, Suissa S. Fluoroquinolones and the risk of serious arrhythmia: a population-based study. *Clin Infect Dis* 2012;55(11):1457-1465.
- 17) Suissa S, Dell’Aniello S, Ernst P. Long-term natural history of chronic obstructive pulmonary disease: severe exacerbations and mortality. *Thorax* 2012;67(11):957-963.
- 18) Suissa S, Azoulay L. Metformin and the risk of cancer: time-related biases in observational studies. *Diabetes Care* 2012;35(12):2665-2673.
- 19) Azoulay L, Assimes TL, Yin H, Bartels DB, Schiffrin EL, Suissa S. Long-term use of angiotensin receptor blockers and the risk of cancer. *PLoS One* 2012;7(12):e50893.

3. Academic and community engagement service outside of McGill by individual members of the unit

SECTION III - CONFIDENTIAL INFORMATION

1. Consulting activities:

Name of Faculty Member	Private Sector Consulting (# of days)	Public Sector Consulting (# days)	Other (# of days - please explain)	Total
Suissa, Samy	30	5	0	35
Filion, Kristian	0	0	0	0

Submitted by:

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