

Annual Report
Division of Clinical Epidemiology
Department of Medicine - Jewish General Hospital
January 1 - December 31, 2014

SUMMARY

1. Research and publications:

Total of new funding awarded this year as PI: \$305,727 and as Co-Investigator: \$929,350. 40 publications were published in 2014.

Suissa, Samy

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 pharmacoepidemiologists 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's research is in pharmacoepidemiology which involves studying the risks and benefits of medications at the within the population at large. He specializes in the exploitation of existing computerized health databases to rapidly evaluate these risks. He has developed, and published extensively on, new methods of data analysis and study design that allow more rapid and accurate assessments of drug safety. He has conducted pharmacoepidemiological studies of several medications used for the treatment of chronic diseases, including asthma and COPD, cardiovascular and rheumatic diseases, and women's health issues. He has lectured extensively throughout the world, and is the author of over 400 peer-reviewed research papers published in scientific journals.

Filion, Kristian

Dr. Filion was awarded his 4th CIHR operating grant (2 years) as principal investigator entitled "A population-based assessment of the cardiovascular effects of 5-alpha reductase inhibitors". He is also a co-investigator on three grants awarded by CIHR:

- 1) The efficacy and safety of smoking cessation interventions in patients with cardiovascular disease: a meta-analysis of randomized controlled trials. (Knowledge Synthesis)
- 2) Evaluating the efficacy of E-cigarette use for smoking cessation (E3) Trial. (Operating Grant)
- 3) The clinical regulatory and ethical implications of electronic cigarettes: a knowledge synthesis grant (Knowledge Synthesis)

He also submitted to the CIHR Foundation Scheme.

During 2014, he published 15 articles, including 4 as first or senior author. Nine other articles are currently submitted.

2. Teaching and learning (undergraduate and graduate):

Suissa, Samy

Dr. Samy Suissa leads the Pharmacoepidemiology Summer Program in the Department of Epidemiology and Biostatistics which holds 4 courses each summer and in which he himself teaches the Advanced Pharmacoepidemiology course. He is currently supervising or co-supervising 5 PhD

students, 4 MSc students and 2 Post-doctoral fellows:

Current Student Supervision (Samy Suissa)

...	M. Jonathan Assayag (PhD in Experimental Medicine)	2012-
...	Ms. Jennifer Wu (PhD in Epidemiology)	2012-
...	Ms. Sunning Tao (MSc in Epidemiology)	2012-
...	Dr. Adrianna Decker (PhD in Epidemiology)	2013-
...	Mr. Farzin Khosrow-Khavar (PhD in Epidemiology)	2013-
...	Dr. Koray Tascilar (Post-doctoral fellow)	2013-
...	Dr. Adi Klil-Drori (Post-doctoral fellow)	2014-
...	Christina Qian (MSc in Epidemiology)	2014-
...	Natasha Larivee (MSc in Epidemiology)	2014-
...	Tanja Tran (PhD in Epidemiology)	2014-
...	Yi Lian (MSc in Epidemiology)	2014-

Filion, Kristian

Dr. Kristian Filion teaches in the medical school and in the Department of Epidemiology and Biostatistics. In the medical school, He taught the Epidemiology Small Groups in Block C to f first year medical students (6 hours) and gave a Block C lecture to the first year medical students entitled "Systematic Reviews and Meta-Analyses" (1 hour). In the Department of Epidemiology and Biostatistics, Dr. Filion was a Co-Instructor in the course entitled "Systematic Reviews and Meta-Analyses" and a Co-Instructor in the course entitled "Intermediate Pharmacoepidemiology", both 2 credit courses. He was also a Guest Lecturer in:

- 1) Knowledge Synthesis - EPIB-677 (2 hours)
- 2) Clinical Epidemiology - EPIB-600B (3 hours)

Dr. Filion is currently co-supervising 2 MSc students in Epidemiology and has joined a doctoral student's thesis committee. He is also supervising 3 medical students on research projects.

3. Involvement in the community:

Suissa, Samy

Internal

- ... Member, Admissions Committee, Department of Epidemiology and Biostatistics, McGill University, 2013-
- ... Member, Doctoral Curriculum Committee, Dept of Epidemiology and Biostatistics, McGill University, 2011-

External

- ... Member, External Advisory Board, PROTECT-European Medicines Agency, 2010-
- ... 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-
- ... Associate Editor, Lancet Respiratory Medicine, 2012-
- ... Associate Editor, COPD -The Journal of Chronic Obstructive Pulmonary Disease COPD, 2012-

Filion, Kristian

- ... Canadian Network for Observational Drug Effect Studies (CNODES) (2011-Present)
- ... Member, Incretins and Pancreatitis and Heart Failure Team (2014-Present)
- ... Member, Knowledge Translation Committee (2013-Present)
- ... Member, Policies and Procedures Committee [formerly Q Committee] (2012-Present)
- ... Member, Clinical Practice Research Datalink (CPRD) Team (2011-Present)
- ... Member, Membership and Communications Committee, American Heart Association Council of Cardiovascular Disease Epidemiology and Prevention (2011-Present)
- ... Member, Program Advisory Committee, Institute for Circulatory and Respiratory Health Young Investigators Forum, Canadian Institutes of Health Research (2011-2014)

4. Partnerships:

Suissa, Samy

- ... 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:

N/A

7. Fundraising:

Suissa, Samy

The CNODES grant allows Dr Suissa to transfer 100,000 CAD 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, in 2013 and will be used for another recruit. Dr Suissa raised funding for an endowed Chair at McGill, the Albert Boehringer 1st Chair in pharmacoepidemiology; recruitment in underway.

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 two 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

Suissa, Samy

New Grants

- 0 Principal Investigator, Newfoundland and Labrador CNODES Demonstration Project. *Canadian Institute for Health Research, Rapid Funding for DSEN Targeted Research (\$150,003)* 2014-15

Currently Funded Research Activities

- 0 Co-investigator, The use of beta-blockers and the prevention of cancer-specific mortality, *Canadian Institutes for Health Research (\$125,476)* 2013-15
- 0 Co-investigator, Are caesarean deliveries associated with long-term increased risk of small bowel obstruction? *Canadian Institutes for Health Research (\$156,813)* 2013-15
- 0 Co-investigator, Propensity scores and marginal structural models in drug safety research *Canadian Institutes for Health Research (\$405,940)* 2012-15
- 0 Principal Investigator, James McGill Professor Award *McGill University (\$105,000)* 2012-19
- 0 Principal Investigator, Canadian Network for Observational Drug Effect Studies (CNODES) *Canadian Institutes for Health Research (\$17,500,000)* 2011-15

Filion, Kristian

New grants

- 0 Principal Investigator, Canadian Institutes of Health Research. A population-based assessment of the cardiovascular effects of 5-alpha reductase inhibitors. (Operating Grant) *(\$155,274)* 2014-16
- 0 Co-Investigator, Canadian Institutes of Health Research. Evaluating the efficacy of E-cigarette use for smoking cessation (E3) trial (Operating Grant) *(\$829,350)* 2014- 19
- 0 Co-Investigator, Canadian Institutes of Health Research. The clinical, regulatory and ethical implications of electronic cigarettes: a knowledge synthesis grant (Knowledge Synthesis) *(\$100,000)* 2014-15

Currently held grants

- 0 Co-Investigator, Canadian Institutes of Health Research. The efficacy and safety of smoking cessation interventions in patients with cardiovascular disease: a meta-analysis of randomized controlled trials. (Knowledge Synthesis) *(\$99,959)* 2013-14
- 0 Co-Investigator, Heart and Stroke Foundation of Canada. A systematic review and meta-analysis of combination therapies for smoking cessation. (Grant-in-Aid) *(\$24,272) (Declined)* 2013-14
- 0 Principal Investigator, Canadian Institutes of Health Research. Gestational diabetes mellitus and the risk of incident cardiovascular disease. (Operating Grant) *(\$149,744)* 2013-15
- 0 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)* 2012-15
- 0 Principal Investigator, Canadian Institutes of Health Research. Drospirenone-containing combined oral contraceptives and the risk of arterial thrombosis. (Operating Grant) *(\$154,530)* 2012-14

2. Scholarly works published in the 2014 calendar year:

Suissa, Samy

- 0 Yu O, Eberg M, Benayoun S, Aprikian A, Batist G, Suissa S, Azoulay L. Use of statins and the risk of death in patients with prostate cancer. *J Clin Oncol* 2014;32(1)5-11.
- 0 Similowski T*, Suissa S. Systemic steroids in severe forms of COPD exacerbations: a question of balance? *Eur Respir J.* 2014 Mar;43(3):668-70.
- 0 Bensimon L*, Yin H, Suissa S, Pollak MN, Azoulay L. Type 2 diabetes and the risk of mortality among patients with prostate cancer. *Cancer Causes Control* 2014 Mar;25(3):329-38.
- 0 Filion KB, Chateau D, Targownik LE, Gershon A, Durand M, Tamim H, Teare GF, Ravani P, Ernst P, Dormuth CR. Proton pump inhibitors and the risk of hospitalization for community-acquired pneumonia: replicated cohort studies with meta-analysis. *Gut* 2014 Apr;63(4):552-8
- 0 Faillie JL*, Azoulay L, Patenaude V, Suissa S. Incretin-based drugs and the risk of acute pancreatitis in patients with type 2 diabetes: cohort study. *BMJ* 2014 Apr;348:g2780.
- 0 Huiart L*, Ferdynus C, Dell'Aniello S, Bakiri N, Giorgi R, Suissa S. Measuring persistence to hormonal therapy in patients with breast cancer: Accounting for temporary treatment discontinuation. *Pharmacology and Therapeutics* 2014 Apr 23(8):882-9.
- 0 Suissa S. Will SUMMIT reach the peak in COPD? *Thorax* 2014 May;69(5):405-7.
- 0 Dial S, Nessim SJ, Kezouh A, Benisty J, Suissa S. Antihypertensive agents acting on the renin angiotensin system and the risk of sepsis. *Br J Clin Pharmacol* 2014 Nov;78(5):1151-8.
- 0 Verhave JC, Tagalakakis V, Suissa S, Madore F, Hébert MJ, Cardinal H. The risk of thromboembolic events in kidney transplant patients. *Kidney Int* 2014 June;85(6):1454-60.
- 0 Matok I*, Azoulay L, Yin H, Suissa S. Immortal time bias in observational studies of drug effects in pregnancy. *Birth Defects Res A Clin Mol Teratol* 2014 Sept;100(9):658-62.
- 0 Tagalakakis V, Patenaude V, Kahn SR, Suissa S. Treatment patterns of venous thromboembolism in a real-world population: The Q-VTE study cohort. *Thromb Res.* 2014 Jul 10 pii:S0049-3848(14)00362-4.
- 0 Bensimon L*, Yin H, Suissa S, Pollak MN, Azoulay L. The use of metformin in patients with prostate cancer and the risk of death. *Cancer Epidemiol Biomarkers Prev.* 2014 Oct;23(10):2111-8.
- 0 Couraud S*, Azoulay L, Dell'Aniello S, Suissa S. Cardiac glycosides use and the risk of lung cancer: a nested case-control study. *BMC Cancer.* 2014 Aug 8;14:573.
- 0 Suissa S, Dell'Aniello S, Suissa D, Ernst P. Friday and weekend hospital stays: effects on mortality. *Euro Resp J* 2014 Sept;44(3):627-33.
- 0 Fournier JP*, Duijnhoven RG, Renoux C, Dell'Aniello S, Klungel OH, Suissa S. Concurrent use of statins and hormone therapy and risk of venous thromboembolism in postmenopausal women: a population-based case-control study. *Menopause* 2014 Sept;21(9):1023-6.
- 0 Suissa S. Simvastatin in moderate-to-severe COPD. *N Engl J Med* 2014 Sept 4;371(10):969-70.
- 0 Bitton A, Vutcovici M, Patenaude V, Sewitch M, Suissa S, Brassard P. Decline in IBD incidence in Québec: Part of the changing epidemiologic pattern in North America. *Inflamm Bowel Dis.* 2014 Oct;20(10):1782-3.

- 0 Vutcovici M, Bitton A, Sewitch M, Brassard P, Patenaude V, Suissa S. Time related bias in administrative health database studies of disease incidence. *Epidemiology* 2014 Nov 25(6):9320-2.
- 0 Brassard P, Bitton A, Suissa A, Sinyavskaya L, Patenaude V, Suissa S. Oral corticosteroids and the risk of serious infections in patients with elderly-onset inflammatory bowel diseases. *Am J Gastroenterol* 2014 Nov;109(11):1795-802.
- 0 Curtis JR, Perez-Gutthann S, Suissa S, Napalkov P, Singh N, Thompson L, Porter-Brown B; on behalf of the Actemra Pharmacoepidemiology Board. Tocilizumab in rheumatoid arthritis: A case study of safety evaluations of a large postmarketing data set from multiple data sources. *Semin Arthritis Rheum.* 2014 Jul 27. pii: S0049-0172(14)00168-1.
- 0 Renoux C, Patenaude V, Suissa S. Incidence, mortality, and sex differences of non-valvular atrial fibrillation: a population-based study. *J Am Heart Assoc.* 2014 Nov 3;3(6).
- 0 Fox BD, Azoulay L, Dell’Aniello S, Langleben D, Lapi F, Benisty J, Suissa S. The use of antidepressants and the risk of idiopathic pulmonary arterial hypertension. *Can J Cardiol.* 2014 Dec 30(13):1633-9.

Articles Published – Currently Ahead of Print

- 0 Brassard P, Vutcovici M, Ernst P, Patenaude V, Sewitch M, Suissa S, Bitton A. Increased incidence of inflammatory bowel disease in Quebec residents with airway diseases. *Eur Respir J.* 2014 Nov 8 **(Epub ahead of print)**
- 0 Lapi F*, Azoulay L, Kezouh A, Benisty J, Matok I, Mugelli A, Suissa S. The use of antidepressants and the risk of chronic atrial fibrillation. *J Clin Pharmacol.* 2014 Nov 26 **(Epub ahead of print)**
- 0 Faillie JL*, Suissa S. Immortal time bias in pharmacoepidemiological studies: Definition, solutions and examples. *Therapie.* 2014 Dec 10 **(Epub ahead of print)**
- 0 Suissa S, Ernst P. The INPULSIS enigma: exacerbations in idiopathic pulmonary fibrosis. *Thorax.* 2014 Dec 9 **(Epub ahead of print)**

Filion, Kristian

- 0 **Filion KB**, Chateau D, Targownik LE, Gershon A, Durand M, Tamim H, Teare GF, Ravani P, Ernst P, Dormuth CR, and the CNODES Investigators. Proton pump inhibitors and the risk of hospitalization for community-acquired pneumonia: replicated cohort studies with meta-analysis. *Gut* 2014; 63:552-8.
- 0 Archambault C, Arel R, **Filion KB**. Gestational diabetes and the risk of cardiovascular disease: a scoping review. *Open Med* 2014; 8:1.
- 0 Bloom BJ, **Filion KB**, Atallah R, Eisenberg MJ. Meta-analysis of randomized controlled trials on the risk of bleeding with dabigatran. *Am J Cardiol* 2014; 113:1066-74.
- 0 Banon D, **Filion KB**, Budlowsky T, Franck C, Eisenberg MJ. The usefulness of ranolazine for the treatment of chronic stable angina pectoris as determined from a systematic review of randomized controlled trials. *Am J Cardiol* 2014; 113:1075-82.
- 0 Ali J, Franck C, **Filion KB**, Eisenberg MJ. Coronary artery bypass graft surgery versus percutaneous coronary intervention with first-generation drug-eluting stents: a meta-analysis of randomized controlled trials. *J Am Coll Cardiol Interv.* 2014; 7:497-506.
- 0 Lipscombe LL, Austin PC, Alessi-Severini S, Blackburn DF, Blais L, Bresee L, **Filion KB**, Kawasumi Y, Kurdyak P, Platt RW, Tamim H, Paterson JM; The Canadian Network for Observational Drug Effect Studies (CNODES) Investigators. Atypical antipsychotics and hyperglycemic emergencies: Multicentre, retrospective cohort study of administrative data. *Schizophr Res* 2014;154:54-60.

- 0 Grandi SM, **Filion KB**, Gervais A, Joseph L, O'Loughlin J, Paradis G, Rinfret S, Pilote L, Grondin FR, Lutchmedial S, Eisenberg MJ. Weight change in patients attempting to quit smoking post-myocardial infarction. *Am J Med.* 2014; 127:641-649.
- 0 Franck C, Budlovsky T, Windle S, **Filion KB**, Eisenberg MJ. Electronic cigarettes: history, use, and implications for smoking cessation. *Circulation.* 2014; 129:1945-52.
- 0 Dormuth CR, **Filion KB**, Paterson JM, James MT, Teare GT, Raymond CB, Rahme E, Tamim H, Lipscombe L, the Canadian Network for Observational Drug Effect Studies (CNODES) Investigators. Higher potency statins and the risk of new diabetes: multicentre, observational study of administrative databases. *BMJ.* 2014; 348:g3244.
- 0 Joza J, **Filion KB**, Eberg M, Proietti R, Nascimento T, Bernier M, Hadjis T, Essebag V. Prognostic value of atrial fibrillation inducibility following right atrial flutter ablation. *Heart Rhythm.* 2014; 11:1870-6.
- 0 Zhang DD, Eisenberg MJ, Grandi SM, Joseph L, O'Loughlin J, Paradis G, Lozano P, **Filion KB**. Bupropion, smoking cessation, and health-related quality of life following an acute myocardial infarction. *J Popul Ther Clin Pharmacol* 2014; 21:e346-56.
- 0 Atallah R, **Filion KB**, Wakil SM, Joseph L, Genest J, Pilote L, Poirier P, Rinfret S, Schiffrin E, Eisenberg MJ. Long-term effects of 4 popular diets on weight loss and cardiovascular risk factors: a systematic review of randomized controlled trials. *Circ Cardiovasc Qual Outcomes* 2014; 7:815-27.
- 0 **Filion KB**, Agarwal AK, Ballantyne CM, Hoogeveen RC, Huxley RR, Loehr LR, Nambi V, Soliman EZ, Alonso, A. High-sensitivity cardiac troponin T and the risk of incident atrial fibrillation: the Atherosclerosis Risk in Communities (ARIC) Study. *Am Heart J* 2015; 169:31-8.

Currently Published Ahead of Print

- 0 Yu OH, **Filion KB**, Azoulay L, Patenaude V, Majdan A, Suissa S. Incretin-based drugs and the risk of congestive heart failure. *Diabetes Care.* 2014 Sep 9. pii: DC_141459. [Epub ahead of print]
- 0 Touma L, **Filion KB**, Atallah R, Eberg M, Eisenberg MJ. A meta-analysis of randomized controlled trials of the risk of bleeding with apixaban versus vitamin K antagonists. *Am J Cardiol* 2014 Dec 2. pii: S0002-9149(14)02180-8. doi: 10.1016/j.amjcard.2014.11.039. [Epub ahead of print]

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

Submitted by:

A handwritten signature in blue ink, appearing to be 'SS', written over a light blue horizontal line.

Samy Suissa, PhD
Chief, Division of Clinical Epidemiology