

**Annual Report**  
**Division of Clinical Epidemiology**  
**Department of Medicine - Jewish General Hospital**  
**January 1 - December 31, 2018**

**SUMMARY**

**1. Research and publications:**

Total of new funding awarded this year: \$609,547.50. A combined total of 35 publications were published in 2018 by Dr. Samy Suissa and Dr. Kristian Filion.

**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 460 peer-reviewed research papers published in scientific journals.

**Filion, Kristian**

Dr. Filion was awarded three grants in 2018 by the CIHR:

1. Levothyroxine for the treatment of subclinical hypothyroidism in pregnancy: a population-based assessment (Principal Investigator – Project Grant) - \$175,950/2 years
2. Evaluating the Efficacy of E-Cigarette use for Smoking Cessation (E3) Trial Extension (Co-Investigator - Project Grant) - \$267,750/2 years
3. Legalization of recreational cannabis use in Canada: a knowledge synthesis (Co-Investigator - Catalyst Grant: Population Health Intervention Research on Legalization of Cannabis) - \$100,000/1 year

In 2018, Dr. Filion had 16 articles published or in press (5 as senior). He has 22 submitted manuscripts (8 as first or senior).

**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 2 PhD students, 3 Post-doctoral fellows:

### **Student Supervision 2018 (Samy Suissa)**

- Mr. Farzin Khosrow-Khavar (PhD in Epidemiology) 2013-
- Ms. Tanja Tran (PhD in Epidemiology) 2014-
- Dr. Antonios Douros (Post-doctoral fellow) 2016-2018
- Dr. Henok Tadesse Ayele (Postdoctoral Fellow) 2016-
- Dr. Francois Montastruc (Postdoctoral Fellow) 2017-2018

### **Filion, Kristian**

Dr. Kristian Filion teaches in the medical school and in the Department of Epidemiology, Biostatistics, and Occupational Health. In the medical school, he taught the Epidemiology Small Groups in Block C to first year medical students (3 hours) and gave first year students a lecture on Systematic Reviews and Meta-Analyses (1 hour). In the Department of Epidemiology, Biostatistics, and Occupational Health, Dr. Filion was the instructor in the course entitled “Knowledge Synthesis” (3 credits) and “Pharmacological Basis of Pharmacoepidemiology (Self-Directed Reading Course)” (1 credits). He was also the co-instructor for the course entitled “Intermediate Pharmacoepidemiology” (2 credits). He was a Guest Lecturer in the following courses: Clinical Epidemiology - EPIB-600B (3 hours); in Pharmacoepidemiologic Methods – EPIB 639 (1.5 hours); in Population Health and Epidemiology – PPHS 501 (1.5 hours).

In 2018, Dr. Filion supervised 1 PhD Student, 3 MSc student in epidemiology, 1 MSc student in family medicine, 1 endocrinology fellow in research, and 5 post-doctoral fellows.

#### 2018 Student Supervision (Kristian Filion):

- Dr. Azar Mehrabadi (Post-doctoral fellow) 2015-Present
- Dr. Henok Tadesse Ayele (Post-doctoral fellow) 2016-Present
- Kathleen Anderson (MSc in Family Medicine) 2016-2018
- Sarah Yoon (MSc in Epidemiology) 2017-2018
- Richard Garfinkle (MSc in Epidemiology) 2017-2018
- Linda Ou (MSc in Epidemiology) 2017-Present
- Vanessa Brunetti (PhD in Epidemiology) 2017-Present
- Dr. Ya Hui Yu (Post-doctoral fellow) 2018-Present
- Dr. Tianze Jiao (Post-doctoral fellow) 2018-Present
- Dr. Reem Masarwa (Post-doctoral fellow) 2018-Present
- Dr. Stephanie Aloe (Endocrinology Fellow) 2018-Present

He is a member of 5 doctoral students’ thesis committees.

### **3. Involvement in the community:**

#### **Suissa, Samy**

##### **Internal**

- Member, PhD Epidemiology Comprehensive Exam Committee, Department of Epidemiology and Biostatistics, McGill University, 2018-
- Member, Pharmacoepidemiology Program Ad-Hoc Committee, Department of Epidemiology and Biostatistics, McGill University, 2018-

- Member, Student Awards Ad-Hoc Committee, Department of Epidemiology and Biostatistics, McGill University, 2018-
- Member, Search Committee Meeting, CAS (Research) Assistant Professor in Clinical Epidemiology, Department of Medicine, McGill University, 2017
- Member, SPGH Director Search Committee, Department of Medicine, McGill University 2017
- Member, PhD Epidemiology Admissions Committee, Department of Epidemiology, Biostatistics, McGill University, 2017
- Member, Departmental Tenure Committee, Department of Epidemiology, Biostatistics, McGill University, 2016-
- Member, Admissions Committee, Department of Epidemiology and Biostatistics, McGill University, 2013-2018
- Member, Doctoral Curriculum Committee, Dept of Epidemiology and Biostatistics, McGill University, 2011-2018

#### **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**

##### **Internal:**

- Ad-hoc Committee on Teaching Loads, Department of Epidemiology, Biostatistics, and Occupational Health, McGill University, Montreal, Quebec, Member, 2017-2018
- McGill Pharmacoepidemiology Working Group, Department of Epidemiology, Biostatistics, and Occupational Health, McGill University, Montreal, Quebec, Faculty Co-Facilitator, 2017-Present
- Ad-hoc Working Group for Pharmacoepidemiology Programs, Department of Epidemiology, Biostatistics, and Occupational Health, McGill University, Montreal, Quebec, Member, 2017-Present
- Admissions Committee, Epidemiology PhD Program, Department of Epidemiology, Biostatistics, and Occupational Health, McGill University, Montreal, Quebec, Member, 2017-Present
- Pharmacoepidemiology Option, Department of Epidemiology, Biostatistics, and Occupational Health, McGill University, Montreal, Quebec, PhD Advisor, 2016-Present
- Joint MD-PhD Program Advisory Committee, Faculty of Medicine, McGill University, Montreal, Quebec, Member, 2015-Present
- McGill Pharmacoepidemiology Journal Club, Centre for Clinical Epidemiology, Lady Davis Institute, Jewish General Hospital, Montreal, Quebec, Faculty Co-Facilitator, 2011-Present
- Epidemiology Seminar Series, Centre for Clinical Epidemiology, Lady Davis Institute, Jewish General Hospital, Montreal, Quebec, Coordinator, 2017-2018
- Lady Davis Institute/TD Studentship Review Committee, Lady Davis Institute, Montreal, Quebec, 2017-Present

##### **External:**

- Permanent Scientific Committee for the Evaluation of Medications, *Institut national d'excellence en santé et en services sociaux* (INESSS), Member, 2018-Present

- Health Research Training A – PhD, Post-Doctoral Fellowships, Canadian Institutes of Health Research. 2018-2019
- College of Reviewers, Canadian Institutes of Health Research, 2017- Present
- *Fonds de la Recherche du Québec – Santé, Junior I chercheurs-boursiers cliniciens, volet clinique et épidémiologique* (Clinician-Scientist, Clinical and Epidemiology), 2017-2018
- Scientific Committee, AstraZeneca Chair in Respiratory Health, University of Montreal, Member, 2017-Present
- 2018 International Conference for Pharmacoepidemiology and Therapeutic Risk Management Mid-Year Meeting Program Committee, Member, 2017-2018

#### 4. Partnerships:

##### Suissa, Samy

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

##### Filion, Kristian

- Dr. Filion gave three lectures at Health Canada as part of a professional development series.

#### 5. Milestones:

N/A

#### 6. New hires, promotions, and retirements:

N/A

#### 7. Honors, awards and prizes:

##### Suissa, Samy

Fellow – Royal Society of Canada, Life Sciences Division of the Academy of Science (2018-Present)  
 Fellow – Distinction, Canadian Academy of Health Science (2013-Present)  
 James McGill Professor – McGill University (2005-2019)

##### Filion, Kristian

Lady Davis Institute Clinical Researcher of the Year for 2017 (awarded in 2018)  
 William Dawson Scholar Award, McGill University (2018-2023)  
 Fellow of the American Heart Association (2012-Present)

#### 8. Fundraising:

N/A

### SECTION I - DIVISION STATUS UPDATE

#### 1. Mission and objectives of the Division

The Division of Clinical Epidemiology, a recent addition to the JGH Department of Medicine includes two members, Dr Kristian Fillion and Dr Samy Suissa, the Chief of the Division.

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

*Dr. Kristian Fillion – Assistant Professor - active*

*Dr. Samy Suissa – Professor - active*

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

### 1. Grants and awards received

#### Suissa, Samy

**Source:** Canadian Institutes for Health Research

**Title:** Canadian Network for Observational Drug Effect Studies (CNODES)-renewal.

**Amount/Year:** \$17,500,000/2016-21

**Role:** Principal Investigator

**Source:** Canadian Institute for Health Research - Rapid Funding for Drug Safety and Effectiveness Network (DSEN) Targeted Research Grant.

**Title:** Development of a Common Data Model across selected CNODES sites

**Amount/Year:** \$250,000/2016-2018

**Role:** Co-Principal Investigator

**Source:** Health Brains for Healthy Living, McGill University

**Title:** A personalized approach to depression care: Discovering adaptive treatment strategies

**Amount/Year:** \$65,847.50/2018-20

**Role:** Co-Investigator PI: Erica Moodie

**Source:** Canadian Diabetes Association

**Title:** Type 2 diabetes, its treatment with metformin and the incidence of viral-induced cancers.

**Amount/Year:** \$169,315/2016-18

**Role:** Co-Investigator **PI:** Paul Brassard

**Source:** Canadian Institute for Health Research, Foundation Scheme 2014

**Title:** Statistical Methods in Pharmacoepidemiology and Perinatal Epidemiology.

**Amount/Year:** \$1,071,717/2015-22

**PI:** Robert Platt **Role:** Program Expert

#### Fillion, Kristian

### Grants and awards received

**Source:** Canadian Institutes of Health Research.

**Title:** Legalization of recreational cannabis use in Canada: a knowledge synthesis (Catalyst Grant: Population Health Intervention Research on Legalization of Cannabis)

**Amount/Year:** \$100,000/2018-2019  
**Role:** Co-Investigator, **PI:** Mark J. Eisenberg MD MPH

**Source:** Canadian Institutes of Health Research.  
**Title:** Pregnancy complications and the risk of subsequent cardiovascular disease (Personalized Medicine Catalyst Competition)  
**Amount/Year:** \$200,000/2017-2019  
**Role:** Principal Investigator

**Source:** Canadian Institutes of Health Research.  
**Title:** Tramadol and the risk of adverse cardiovascular events: a population-based study (Project Grant)  
**Amount/Year:** \$175,950/2017-2019  
**Role:** Principal Investigator

**Source:** Canadian Institutes of Health Research.  
**Title:** Canadian Network for Observational Drug Effect Studies (DSEN Collaborating Centre for Observational Studies)  
**Amount/Year:** \$17,500,000/2016-2021  
**Role:** Co-Investigator **PIs:** Samy Suissa PhD, Colin R. Dormuth ScD, David A. Henry MD, Robert W. Platt PhD, Ingrid Sketris PharmD

**Source:** Canadian Institutes of Health Research.  
**Title:** Improving long term outcomes after venous thromboembolism (VTE) (Foundation Scheme)  
**Amount/Year:** \$2,050,825/2015-2022  
**Role:** Project Expert **PI:** Susan Kahn MD MSc

**Source:** Canadian Institutes of Health Research.  
**Title:** Evaluating the efficacy of e-cigarette use for smoking cessation (E3) Trial (Operating Grant)  
**Amount/Year:** \$829,350/2014-2019  
**Role:** Project Expert **PI:** Mark J. Eisenberg MD MPH

## 2. Scholarly works published in the 2018 calendar year:

### Samy Suissa

1. Klil-Drori A, Coulombe J, **Suissa S**, Hirsh A, Tagalakakis V. Temporal trends in outpatient management of incident pulmonary embolism and associated mortality. *Thrombosis Research* 2018 Jan;161:111-116
2. **Suissa S**. Lower risk death with D+SGLT-2 inhibitors in observational studies. Real or bias? *Diabetes Care* 2018 Jan;41(1):6-10.
3. **Suissa S**, Israel E, Donohue J, Evans S, Kemp J. FDA-mandated Trials of LABA Safety in Asthma: Bang for the Buck? *Am J Respir Crit Care Med*. 2018 Jan 22. [epub ahead of print].
4. Sinyavskaya L, Gauthier G, Renoux C, Dell'Aniello S, **Suissa S**, Brassard P. Comparative effect of statins on the risk of incident Alzheimer's disease. *2018 Neurology* 90(3);e179-e187.
5. Loo SY, Coulombe J, Dell'Aniello S, Brophy JM, **Suissa S**, Renoux C. Comparative effectiveness of novel oral anticoagulants in UK patients with non-valvular atrial

- fibrillation and chronic kidney disease: a matched cohort study. *BMJ Open*. 2018 Jan 24;8(1).
6. **Suissa S**. Mortality Reduction in EMPA-REG OUTCOME Trial: Beyond the Antidiabetes Effect. *Diabetes Care*. 2018 Feb;41(2):219-223
  7. Abenhaim HA, Tulandi T, Wilchesky M, Platt R, Spence AR, Czuzoj-Shulman N, **Suissa S**. Effect of Cesarean Delivery on Long-term Risk of Small Bowel Obstruction. *Obstet Gynecol*. 2018 Feb;131(2):354-359
  8. \*Douros A, Azoulay L, Yin H, **Suissa S**, Renoux C. Non-Vitamin K Antagonist Oral Anticoagulants and Risk of Serious Liver Injury. *J Am Coll Cardiol*. 2018 Mar 13;71(10):1105-1113.
  9. **Suissa S**, Azoulay L. Reply to P. Autier et al. *J Clin Oncol*. 2018 Mar 10;36(8):831-832.
  10. Huiart L, Ferdynus C, Renoux C, Beaugrand A, Lafarge S, Bruneau L, **Suissa S**, Maillard O, Ranouil X. Trends in initiation of direct oral anticoagulant therapies for atrial fibrillation in a national population-based cross-sectional study in the French health insurance databases. *BMJ Open*. 2018 Mar 30;8(3):e018180
  11. **Suissa S**. Reduced Mortality With Sodium-Glucose Cotransporter-2 Inhibitors in Observational Studies: Avoiding Immortal Time Bias. *Circulation*. 2018 Apr 3;137(14):1432-1434.
  12. **Suissa S**, Ernst P. Observational Studies of Inhaled Corticosteroid Effectiveness in COPD: Lessons Learned. *Chest*. 2018 Aug;154(2):257-265.
  13. \*Tran T, **Suissa S**. The effect of anti-acid therapy on survival in idiopathic pulmonary fibrosis: a methodological review of observational studies. *Eur Respir J*. 2018 Jun 21;51(6).
  14. **Suissa S**. Response to Comment on Suissa. Lower Risk of Death With SGLT2 Inhibitors in Observational Studies: Real or Bias? *Diabetes Care* 2018;41:6-10. *Diabetes Care*. 2018 Jun;41(6):e109-e110.
  15. \*Douros A, Dell'Aniello S, Yu OHY, Filion KB, Azoulay L, **Suissa S**. Sulfonylureas as second line drugs in type 2 diabetes and the risk of cardiovascular and hypoglycaemic events: population based cohort study. *BMJ*. 2018 Jul 18;362:k2693.
  16. Rabe KF, Hurst JR, **Suissa S**. Cardiovascular disease and COPD: dangerous liaisons? *Eur Respir Rev*. 2018 Oct 3;27(149).
  17. **Suissa S**, Dell'Aniello S, Ernst P. Comparative effectiveness of LABA-ICS versus LAMA as initial treatment in COPD targeted by blood eosinophils: a population-based cohort study. *Lancet Respiratory Medicine* 2018 Nov;6(11):855-862.
  18. **Suissa S**, Ariel A. Triple therapy trials in COPD: a precision medicine opportunity. *ERJ* 2018 Dec 13;52(6).
  19. \*Montastruc F, Renoux C, Dell'Aniello S, Simon TA, Azoulay L, Hudson M, **Suissa S**. Abatacept initiation in rheumatoid arthritis and the risk of cancer: a population-based comparative cohort study. *Rheumatology (Oxford)*. 2018 Dec 7 (epub ahead of print)

### [Kristian Filion](#)

1. \*+Ait Ichou J, \*+Larivée N, Eisenberg MJ, \*Suissa K, **Filion KB**. The effectiveness and safety of the Impella ventricular assist device for high-risk percutaneous coronary interventions: a systematic review. *Cardiac Catheter Interv* 2018;91:1250-1260.
2. \*\*Franck C, **Filion KB**, Eisenberg MJ. Smoking cessation in patients with acute coronary syndrome. *Am J Cardiol* 2018;121:1105-1111.
3. \*Puckrin R, Saltiel MP, Reynier P, Azoulay L, Yu O, **Filion KB**. SGLT-2 inhibitors and the risk of infections: A systematic review and meta-analysis of randomized controlled trials. *Acta Diabetol* 2018;55:503-514.

4. Yu OH, Azoulay L, Yin H, **Filion KB**, Suissa S. Sulfonylureas as initial treatment for type 2 diabetes and the risk of severe hypoglycemia. *Am J Med* 2018;131:317.
5. Kahn SR, Morrison DR, Diendéré G, Piché A, **Filion KB**, Klil-Drori AJ, Douketis JD, Emed J, Roussin A, Tagalakis V, Morris M, Geerts W. Interventions for implementation of thromboprophylaxis in hospitalized patients at risk for venous thromboembolism. *Cochrane Database Syst Rev* 2018;4:CD008201. DOI: 10.1002/14651858.CD008201.pub3.
6. Douros A, Dell'Aniello S, Yu OH, **Filion KB**, Azoulay L, Suissa S. Sulfonylureas as second-line therapy and the risk of cardiovascular and hypoglycaemic events: population based cohort study. *BMJ* 2018;362:k2693.
7. \*Mehrabadi A, Reynier P, Platt RW, **Filion KB**. Domperidone for insufficient lactation in England 2002-2015: a drug utilization study with interrupted time series analysis. *Pharmacoepidemiol Drug Saf* 2018;27:1316-1324.
8. Douros A, **Filion KB**, Yin H, Yu OH, Etminan M, Udell JA, Azoulay L. Glucagon-like peptide-1 receptor agonists and the risk of incident diabetic retinopathy. *Diabetes Care*. 2018;41:2330-2338.
9. \*Grandi SM, Reynier P, Platt RW, Basso O, **Filion KB**. The timing of onset of hypertensive disorders in pregnancy and the risk of incident hypertension and cardiovascular disease. *Int J Cardiol* 2018; 270:273-275.
10. \*Wu JW, Azoulay L, Huang A, Paterson JM, Wu F, Secrest MH, **Filion KB**. Identification of incident pancreatic cancer in administrative health data: a validation study. *Pharmacoepidemiol Drug Saf* 2018 Oct 4. DOI: 10.1002/pds.4641. [Epub ahead of print]
11. \*Grandi SM, Reynier P, Platt RW, Basso O, **Filion KB**. The timing of onset of hypertensive disorders in pregnancy and the risk of incident hypertension and cardiovascular disease. *Int J Cardiol* 2018; 270:273-275.
12. Grandi SM, Hutcheon JA, **Filion KB**, Platt RW. Methodological challenges in risk prediction in perinatal epidemiology. *Curr Epidemiol Rep* 2018; 5: 399-406.
13. Langan SM, Schmidt SAJ, Wing K, Ehrenstein V, Nicholls SG, **Filion KB**, Klungel O, Petersen I, Sorensen HT, Dixon WG, Guttman A, Harron K, Hemkens LG, Moher D, Schneeweiss S, Smeeth L, Sturkenboom M, von Elm E, Wang SV, Benchimol EI. The REporting of studies Conducted using Observational Routinely-collected health Data (RECORD) Statement for Pharmacoepidemiology (RECORD-PE). *BMJ* 2018;363:k3532
14. \*\*Nolan S, **Filion KB**, Atallah R, Moss E, Reynier P, Eisenberg MJ. Hybrid coronary revascularization vs complete coronary artery bypass grafting for multivessel coronary artery disease: a systematic review and meta-analysis. *J Invas Cardiol* 2018;30:E131-E149.
15. Hicks BM, **Filion KB**, Yin H, Sakr L, Udell JA, Azoulay L. Angiotensin converting enzyme inhibitors and the risk of lung cancer: population based cohort study. *BMJ* 2018;363:k4209. doi: 10.1136/bmj.k4209.
16. Secrest MH, Platt RW, Dormuth CR, Chateau D, Targownik L, Nie R, Doyle CM, Dell'Aniello S, **Filion KB**. Extreme restriction design as a method for reducing confounding by indication in pharmacoepidemiologic research. *Pharmacoepidemiol Drug Saf* 2019 Jan 9. doi: 10.1002/pds.4708. [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 read 'SS', is written over a faint, light blue circular stamp or watermark.

Samy Suissa, PhD  
Chief, Division of Clinical Epidemiology