

Kate M Johnson

Postdoctoral Fellow

Education

- 2020- Postdoctoral Fellow. CHOICE Institute, University of Washington
- 2016-2020 PhD Pharmaceutical Sciences. University of British Columbia
- 2013-2015 MSc Biology. University of British Columbia
- 2008-2013 BSc Biology. University of Alberta

Research Experience

- 2020- **Postdoctoral Fellowship.**
 - Mentored by Prof. Anirban Basu, The Comparative Health Outcomes, Policy, and Economics (CHOICE) Institute, University of Washington
 - Developing a microsimulation model to evaluate curative therapies in sickle cell disease
- 2016-2020 **Doctor of Philosophy.**
 - Mentored by Prof. Mohsen Sadatsafavi, Faculty of Pharmaceutical Sciences, University of British Columbia
 - Thesis title: Evaluating strategies for the early detection of chronic obstructive pulmonary disease
 - Used systematic reviews, empirical analysis of clinical studies and administrative big data to generate evidence on patterns of care for COPD and characterize heterogeneity in its natural history
 - Developed a whole disease, microsimulation model of COPD to assess the cost-effectiveness of early detection strategies
 - Published 14 peer reviewed publications
 - Awarded \$139,600 in research funding

Publications

Journal Articles

*indicates an undergraduate mentee author

- 2020 **The Acute COPD Exacerbation Prediction Tool (ACCEPT): a modelling study**, A Adibi, DD Sin, A Safari, KM Johnson, SD Aaron, JM FitzGerald, ..., The Lancet Respiratory Medicine.
- 2020 **Effects of long-term inhaled corticosteroid treatment on fragility fractures in older women: the Manitoba BMD registry study**, *B Ng, WD Leslie, KM Johnson, JM FitzGerald, M Sadatsafavi, W Chen, Osteoporosis International.

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- 2020 **Healthcare system encounters before COPD diagnosis: a registry-based longitudinal cohort study**, *KM Johnson, A Khakban, S Bryan, DD Sin, M Sadatsafavi*, Thorax.
- 2019 **A systematic review of the adverse events and economic impact associated with oral corticosteroids in asthma**, *K Al Efraij, KM Johnson, D Wiebe, M Sadatsafavi, JM FitzGerald*, Journal of Asthma.
- 2019 **Development and validation of the Evaluation Platform In COPD (EPIC): a population-based outcomes model of COPD for Canada**, *M Sadatsafavi, S Ghanbarian, A Adibi, KM Johnson, JM FitzGerald, ...*, Medical Decision Making.
- 2019 **Trends in prescriptions and costs of inhaled medications in chronic obstructive pulmonary disease: a 19-year population-based study from Canada**, *MS Hamid Tavakoli, Kate M Johnson, J Mark FitzGerald, Don D Sin, Andrea S ...*, International Journal of Chronic Obstructive Pulmonary Disease.
- 2019 **Cost-effectiveness of implementing objective diagnostic verification of asthma in the United States**, *M Yaghoubi, A Adibi, Z Zafari, JM FitzGerald, SD Aaron, KM Johnson, ...*, Journal of Allergy and Clinical Immunology.
- 2019 **Direct costs of overdiagnosed asthma: a longitudinal, population-based cohort study in British Columbia, Canada**, **B Ng, M Sadatsafavi, A Safari, JM FitzGerald, KM Johnson*, BMJ open.
- 2018 **The association between previous and future severe exacerbations of chronic obstructive pulmonary disease: Updating the literature using robust statistical methodology**, *M Sadatsafavi, H Xie, M Etminan, KM Johnson, JM FitzGerald, ...*, PloS one.
- 2018 **Characterizing undiagnosed chronic obstructive pulmonary disease: a systematic review and meta-analysis**, *KM Johnson, S Bryan, S Ghanbarian, DD Sin, M Sadatsafavi*, Respiratory Research.
- 2018 **Long-term effects of inhaled corticosteroids on bone mineral density in older women with asthma or COPD: a registry-based cohort study**, *KM Johnson, W Chen, JM FitzGerald, M Sadatsafavi, WD Leslie*, Archives of Osteoporosis.
- 2018 **The diagnostic performance of patient symptoms in screening for COPD**, *KM Johnson, WC Tan, J Bourbeau, DD Sin, M Sadatsafavi*, Respiratory Research.

- 2018 **Heterogeneity in the respiratory symptoms of patients with mild-to-moderate COPD**, *KM Johnson, A Safari, WC Tan, J Bourbeau, JM FitzGerald, M Sadatsafavi*, *International Journal of Chronic Obstructive Pulmonary Disease*.
- 2017 **Stability of asthma symptom control in a longitudinal study of mild-to-moderate asthmatics**, *KM Johnson, JM FitzGerald, H Tavakoli, W Chen, M Sadatsafavi*, *The Journal of Allergy and Clinical Immunology: In Practice*.
- 2018 **Demographic consequences of invasion by a native, controphic competitor to an insular bird population**, *KM Johnson, RR Germain, CE Tarwater, JM Reid, P Arcese*, *Oecologia*.
- 2016 **Nest defense and parental investment in Song Sparrows (*Melospiza melodia*)**, *N Morrell, KM Johnson, CE Tarwater, P Arcese*, *Canadian Journal of Zoology*.
- 2014 **Demographic effects on fruit set in the dioecious shrub Canada buffaloberry (*Shepherdia canadensis*)**, *KM Johnson, SE Nielsen*, *PeerJ*.

Awards

- 2020 **Mitchell-Dwivedi Graduate Award in Pharmaceutical Sciences Award**, *University of British Columbia*, \$12,650.
- 2019 **Institute of Health Services and Policy Research Travel Award**, *Canadian Institutes of Health Research*, \$1,500.
- 2019 **Symposium Travel Award**, *Canadian Agency for Drugs and Technologies in Health*, \$1,650.
- 2019 **John H. McNeill Award**, *University of British Columbia*, \$2,300.
- 2019 **Santosh M. Wasam Travel Award**, *University of British Columbia*, \$1,000.
- 2019, 2018 **Outstanding Service Award**, *Faculty of Pharmaceutical Sciences*.
- 2018, 2017 **Institute of Circulatory and Respiratory Health Travel Award**, *Canadian Institutes of Health Research*, \$2000.
- 2017 **Four Year Doctoral Fellowship**, *University of British Columbia*, \$72,800.

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- 2017 **Studentship Award**, *The Canadian Lung Association*, \$42,000.
- 2016 **Douglas and Jean Bailey Award**, *University of British Columbia*, \$1,700.
- 2016 **Graduate Student Award**, *Faculty of Pharmaceutical Sciences*, \$2,000.
- 2014 **Bert Hoffmeister Award**, *University of British Columbia*, \$3,500.
- 2014 **Canadian Graduate Scholarship**, *Natural Sciences and Engineering Research Council of Canada*, \$17,500.
- 2014 **Van Tyne Research Award**, *American Ornithologists Union*, \$2,500.
- 2014 **Hesse Graduate Award**, *University of British Columbia*, \$1,800.
- 2013 **BRITE Research Award**, *University of British Columbia*, \$10,000.
- 2013 **Faculty of Forestry Graduate Award**, *University of British Columbia*, \$5,000.
- 2012 **Undergraduate Research Award**, *Natural Sciences and Engineering Research Council of Canada*, \$4,500.

Conference Publications

- 2019 **Healthcare services use before COPD diagnosis: a registry-based longitudinal cohort study**, *KM Johnson, A Khakban, S Bryan, D Sin, M Sadatsafavi*, Canadian Respiratory Conference.
- 2018 **Drivers of respiratory symptoms in COPD patients**, *KM Johnson, A Safari, WC Tan, J Bourbeau, M Sadatsafavi*, European Respiratory Congress.
- 2018 **The discriminatory capacity of symptoms to distinguish undiagnosed COPD from non-COPD**, *KM Johnson, WC Tan, J Bourbeau, M Sadatsafavi*, European Respiratory Congress.
- 2018 **Characterizing undiagnosed chronic obstructive pulmonary disease: a systematic review and meta-analysis**, *KM Johnson, S Bryan, S Ghanbarian, M Sadatsafavi*, American Thoracic Society International Conference.

- 2017 **Stability of asthma symptom control in a longitudinal study of mild–moderate asthmatics**, *KM Johnson, JM FitzGerald, H Tavakoli, w Chen, M Sadatsafavi*, Canadian Respiratory Conference.

Presentations

- 2019 **Evaluating strategies for early detection of Chronic Obstructive Pulmonary Disease**, *Network of Alberta Health Economists Thesis Throwdown Competition*, 1st place.
- 2019 **Healthcare resource use before COPD diagnosis**, *Canadian Respiratory Research Network Annual General Meeting*, Best trainee presentation.
- 2018 **Using respiratory symptoms to distinguish between undiagnosed COPD and non-COPD**, *Canadian Respiratory Research Network Annual General Meeting*, 3rd Best trainee presentation.
- 2018 **Characterizing undiagnosed chronic obstructive pulmonary disease: a systematic review and meta analysis**, *British Columbia Heart and Lung FEST*.
- 2017 **Stability of asthma symptom control in a longitudinal study of mild-moderate asthmatics**, *Canadian Respiratory Research Network Annual General Meeting*.

Teaching Experience

- 2019 **Introduction to Health Economics**, *HSCI 305- The Canadian Health System*, Simon Fraser University.
 - Delivered two guest lectures on economic evaluation to undergraduate students.
- 2019 **Data Wrangling for Health Outcomes Research in R Workshop**, *International Society for Pharmacoconomics and Outcomes Research*, University of British Columbia Student Chapter.
 - Constructed and led a 3 hour workshop on the fundamentals of data manipulation in R using the tidyverse. Course materials can be found at github.com/KateJohnson/ISPORDataWrangling
- 2019 **Interactive Activity Workshop (Epidemiology 101)**, *3rd year Pharmacy Students*, University of British Columbia.
 - Lectured and led students through a three hour workshop on hypothesis testing, and calculating odd ratios and risk ratios from contingency tables.
- 2019 **Graduate Teaching Assistant DSCI 554 (Experimentation and Causal Inference)**, *Master of Data Science Program*, University of British Columbia.
 - Held weekly office hours. Guided students through interactive lab exercises, and designing and conducting a study to examine the effect of an exposure on an outcome of interest in data science.

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- 2018 **Graduate Teaching Assistant DSCI 552 (Statistical Inference and Computation)**, *Master of Data Science Program*, University of British Columbia.
- Held weekly office hours. Guided students through interactive lab exercises in R related to hypothesis testing, estimating parameters, and evaluating uncertainty.
- 2016 **Instructional Skills Workshop**, *Centre for Teaching, Learning and Technology*, University of British Columbia.
- Three day professional development workshop designed to help graduate students enhance their teaching skills.

Service

Manuscript Reviews

2020 ISPOR Conference (Abstracts).

Lancet Respiratory Medicine (1).

European Journal of Health Economics (1).

Journal of Allergy and Clinical Immunology: In Practice (1).

Scientific Reports (1).

Respiratory Research (2).

2018 Canadian Agency for Drugs and Technologies in Health Symposium (Abstracts).

Leadership

2019-2020 Director of Education. ISPOR University of British Columbia Student Chapter

2017-2019 Organizing Committee. Faculty of Pharmaceutical Sciences Research Symposium

Mentorship

2018-2019 **Graduate Student Mentorship Program**, 2 *Mentees*, Faculty of Pharmaceutical Sciences, University of British Columbia.

- I provide advice and resources to first year graduate students.

2018 **Summer Student Research Program**, 1 *Mentee*, Faculty of Pharmaceutical Sciences, University of British Columbia.

- I was the primary supervisor of an undergraduate student (B. Ng), who conducted a research project on the costs of misdiagnosed asthma. I supervised the study design, analysis of the data, and writing the manuscript. I am senior author of the resulting manuscript (Ng 2018).

2014-2015 **Undergraduate Student Research Award**, 2 *Mentees*, Faculty of Forestry, University of British Columbia.

- I supervised two undergraduate students during a season of data collection. I helped develop and publish an independent research project with one of the students (Morrell 2016).

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