

Kate M Johnson

PhD Candidate

I am a health economist and health outcomes researcher interested in improving care for chronic diseases. My research has two broad themes: 1) evidence generation to understand decision trajectory and individualize patient care, and 2) whole disease modelling to evaluate healthcare policies. I use empirical analysis of clinical studies, big data analytics, and simulation modeling to answer clinical and policy questions.

Education

- 2016- PhD Pharmaceutical Sciences. University of British Columbia
- 2013-2015 MSc Biology. University of British Columbia
- 2008-2013 BSc Biology. University of Alberta

Awards

- 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.
- 2017 **Studentship Award**, The Canadian Lung Association, \$42,000.
- 2016 **Douglas and Jean Bailey Award**, University of British Columbia, \$1,700.

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- 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.

Publications

Journal Articles

- 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.
- 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 **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 **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.

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- 2018 **The diagnostic performance of patient symptoms in screening for COPD**, *KM Johnson, WC Tan, J Bourbeau, DD Sin, M Sadatsafavi*, Respiratory Research.
- 2018 **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.
- 2018 **The costs of misdiagnosed asthma in a longitudinal study of the general population**, *B Ng, M Sadatsafavi, A Safari, JM Fitzgerald, KM Johnson*, bioRxiv.
- 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-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.

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.

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- 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 **Data Wrangling for Health Outcomes Research in R Workshop**, *International Society for Pharmacoeconomics 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

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- 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 explore a topic of interest in data science.
- 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 and GitHub.
- 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

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).

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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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