

# Erin Kirwin

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## Education

[Candidate, Expected 2022] University of Manchester, Manchester, United Kingdom

### **PhD in Health Economics**

Awards: Doctoral Academy Award

Thesis topic: Methods for the Economic Evaluation of Horizontal Health System Interventions

[2014] University of Alberta, Edmonton, Canada

### **Master of Arts in Economics**

[2010] McGill University, Montreal, Canada

**Bachelor of Arts (Honours)** International Development Studies, Major Economics

Awards: Burgess Family Internship Award, Quebec Youth Travel Forum Award

## Peer-Reviewed Publications

**Kirwin E**, Bond K, Round J, McCabe C. *A Conceptual Framework for Life-Cycle Health Technology Assessment*. 2022. Value in Health.

**Kirwin E**, Rafferty E, Harback K, Round J, McCabe C. *A Net Benefit Approach for the Optimal Allocation of a COVID-19 Vaccine*. 2021. PharmacoEconomics.

Mulberry N, Tupper P, **Kirwin E**, McCabe C, Colijn C. *Vaccine rollout strategies: The case for vaccinating essential workers early*. 2021. PLOS Global Public Health.

Briggs A, Goldstein D, **Kirwin E**, Meacock R, Pandya A, Vanness D, Wisloff T. *Estimating (quality-adjusted) life-year losses associated with deaths: with application to COVID-19*. 2020. Health Economics.

**Kirwin E**, Varughese M, Waldner D, Simmonds K, Joffe A, Smith S. *Comparing methods to estimate incremental inpatient costs and length of stay due to methicillin-resistant Staphylococcus aureus in Alberta, Canada*. 2019. BMC Health Services Research.

Barichello S, Nguyen T, Lu D, Ismond K, Loomes D, **Kirwin E**, Wang H, Chang D, Svenson L, Fedorak R. *Comparative Effectiveness and Cost-Effectiveness Analysis of a Urine Test versus Alternative Colorectal Cancer Screening Strategies*. 2018. American Journal of Gastroenterology.

Beilman C, **Kirwin E**, Ma C, McCabe C, Fedorak R, Halloran B. *Early Initiation of Anti-TNF Therapy is Cost-Saving Compared to Late Initiation for Patients with Crohn's Disease*. 2017. Clinical Gastroenterology & Hepatology.

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Dover D, **Kirwin E**, Hernandez N, Nelson K. *Pandemic Risk Assessment Model (PRAM): A Mathematical Modeling Approach to Pandemic Influenza Planning*. 2016. *Epidemiology and Infection*.

### Working Papers

**Kirwin E**, Meacock M, Round J, Sutton M. *The Diagonal Approach: A Theoretic Framework for the Economic Evaluation of Vertical and Horizontal Interventions in Healthcare*. [Revise and Resubmit at *Social Science and Medicine*]

Akpinar I, **Kirwin E**, Chojecki D, Tjosvold L, Round J. *A systematic review of the accessibility, acceptability, safety, efficiency, clinical effectiveness and cost-effectiveness of private providers of elective surgical services compared with public providers*. [Under Review at *BMC Health Services Research*]

**Kirwin E**, Paulden M, McCabe C, Round J, Sutton M, Meacock R. *The risk-based price: incorporating uncertainty and risk attitudes in health technology pricing*. [Pre-Print on SSRN]

### Employment

[July 2019 – Present] Institute of Health Economics, Edmonton, Canada

#### Health Economist

- Research study and methods development. Focus on cost-effectiveness analyses and policy evaluations, using modelling and econometric methods.
- Grant writing. Leadership and coordination of several successful grant applications, including a \$1.2 million network grant.
- Results dissemination and knowledge transfer. Communication through stakeholder and conference presentations, research reports, and publication in scientific journals.

[July 2017 – July 2019] Alberta Health, Edmonton, Canada

#### Manager, Advanced Analytics

- Act as departmental lead for complex analytic projects, decision modelling, rapid turnaround with high visibility outputs.
- Manage senior staff team of three, tasking workflow, mentoring, supporting development, reviewing work, recruitment.
- Manage the Interactive Health Data Application, the Alberta Community Household Survey, and Statistics Canada agreements.
- Invited collaborations with the US Centers for Disease Control (CDC) hosted on-site at the Atlanta headquarters over two visits for a total of one month.

[July 2011 – July 2017] Alberta Health, Edmonton, Canada

#### Public Health Economist

- Use of administrative data to inform health system decisions through econometric and model-based analyses
- Dissemination of evidence to stakeholders and internal requestors, communicated through ad-hoc requests, briefings, and invited presentations

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## Research Funding

Co-Primary Investigator. **The Decision Uncertainty Toolkit: Estimating and communicating decision uncertainty within infectious disease models.** Canadian Network for Modelling Infectious Diseases. (\$70,000 from 2021-2022)

Collaborator. **One-society Network: Mathematical modelling of multi-sectoral impacts of pandemics and control policies.** Natural Sciences and Engineering Research Council (NSERC) Emerging Infectious Disease Modelling Initiative (\$1,250,000 from 2021-2023)

Co-Investigator. **Estimation of long-term COVID-19 health state utility values. Canadian Institutes for Health Research.** Vaccine Readiness Grant: Modelling and Economics Research Network. (\$115,165 from 2021-2022)

Trainee. **Canadian Immunization Research Network (CIRN). Public Health Agency of Canada, Canadian Institutes for Health Research.** (\$6,600,000 from 2014-2017; \$10,083,000 from 2017-2022)

## Conference Presentations

**Kirwin E**, Paulden M, McCabe C, Round J, Sutton M, Meacock R. *The Risk-Based Price: incorporating uncertainty and risk attitudes in health technology pricing.* 2021. CADTH

**Kirwin E**, Paulden M, McCabe C, Round J, Sutton M, Meacock R. *The Risk-based Price: incorporating uncertainty and risk attitudes in health technology pricing.* 2021. Cambridge Health Economics Study Group. [Paper discussed in dedicated session]

**Kirwin E**, Hopkin G, Bond K, Round J, McCabe C. *Health Technology Assessment Methods for Research Oriented Market Access.* 2020. Society for Medical Decision Making North American Meeting. Watch [here](#).

**Kirwin E**, Hopkin G, Bond K, Round J, McCabe C. *Health Technology Assessment Methods for Research Oriented Market Access.* 2020. Canadian Association for Health Services and Policy Research (CAHSPR) Conference. [Cancelled due to COVID-19]

## Conference Abstracts

**Kirwin E**, Rafferty E, Round J, McCabe C. *The COVID-19 Risk Assessment Model: an Interactive Epidemiologic Modelling Platform.* 2020. Canadian Association for Population Therapeutics (CAPT) Conference.

**Kirwin E**, Rafferty E, MacDonald S. *Choice of Influenza Immunization Provider and Impact on Immunization Coverage in Alberta, Canada.* 2019. ISPOR Europe.

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## Invited Oral Presentations (Selected)

**Kirwin E.** 2021. Pennsylvania State University Health Services Research Colloquium. *The Diagonal Approach: A Theoretic Framework for the Economic Evaluation of Vertical and Horizontal Interventions in Healthcare.*

**Kirwin E.** 2021. Pennsylvania State University, Seminar to the Medical School at Hershey. *The Risk-Based Price: incorporating uncertainty and risk attitudes in health technology pricing.*

**Kirwin E.** 2021. NOAHE Health Economics and Technology Assessment Rounds V. *The Diagonal Approach: A Theoretic Framework for the Economic Evaluation of Vertical and Horizontal Interventions in Healthcare.*

**Kirwin E.** 2021. The United Kingdom Office of Health Economics. *The Risk-Based Price: incorporating uncertainty and risk attitudes in health technology pricing.*

**Kirwin E.** 2020. Alberta Health Economics Study Group. *Real Time Epidemiological Modelling to inform the COVID-19 Pandemic Response.* **Keynote.**

**Kirwin E.** 2019. NOAHE Health Economics and Technology Assessment Rounds III. *Administrative Data Analytics at Alberta Health.*

**Kirwin E** and Varughese M. 2018. Alberta Advisory Committee on Immunization. *Cost Effectiveness Analysis of Shingrix Vaccine.*

**Kirwin E.** 2017. Respiratory Strategic Clinical Network. *Costing Chronic Disease with Administrative Data.*

**Kirwin E.** 2016. Canadian Chronic Disease Surveillance System Economic Committee National Meeting. *Using Economic and Epidemiologic Data for Chronic Disease Surveillance in Alberta.*

**Kirwin E.** 2015-2019. Government of Alberta Evidence in Policy Course. *Policy and Surveillance: Epidemiology and Economic Evaluation.*

**Kirwin E.** 2014. Western Canada Immunization Forum. *HPV Vaccine for Boys: A Cost Effectiveness Analysis.* Watch [here](#).

**Kirwin E.** 2013. Alberta Advisory Committee on Immunization. *HPV Immunization in Alberta: Cost Utility Analysis.*

## Additional Training

[2020] Michigan State University, Professor Jeff Wooldridge, Virtual  
**ÊSTIMATE: The Reduced Form**

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Shortened course with a focus on understanding when various models and estimation methods are appropriate as well as how to conduct proper inference in a variety of settings.

[2015] Health Economics Research Unit (HERU), University of Aberdeen and O'Brien Institute for Public Health, University of Calgary, Banff, Canada  
**Using Discrete Choice Experiments in Health Economics: Theoretical and Practical Issues**

Introduction to discrete choice experiments with hands-on experience of the design, questionnaire development, data input, analysis and interpretation.

[2014] SAS Institute, Virtual  
**Programming I, II, Macro Language**  
Programming Essentials, Data Manipulation Techniques, Macro Language

[2012] University of Alberta, Edmonton, Canada  
**Mathematical Modeling of Infectious Diseases**  
Theory and methods for modeling infectious diseases with MATLAB and Mathematica.

## Software

SAS, Mathematica, R, Stata

## Journal Refereeing

PharmacoEconomics, PLOS One, International Journal of Health Technology Assessment

## Memberships

Network of Alberta Health Economists: Health Economist Member, Current

UK Health Economics Study Group. Member, Current

Society for Medical Decision Making: Member

The Professional Society for Health Economics and Outcomes Research: Member

Canadian Chronic Disease Surveillance System Economic Committee: Alberta Delegate

Alberta PROMs and EQ-5D Research and Support Unit: Scientific Advisory Committee Member

Last updated February 28, 2022