

Erin Kirwin, PhD

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Education

[2024] University of Manchester, Manchester, United Kingdom

PhD in Health Economics

Awards: Doctoral Academy Tuition Award

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

Supervisors: Matt Sutton, Rachel Meacock, Jeff Round

[2014] University of Alberta, Edmonton, Canada

Master of Arts in Economics

[2010] McGill University, Montreal, Canada

Bachelor of Arts (Honors) International Development Studies, Major Economics

Awards: Burgess Family Award, Quebec Youth Travel Forum Award

Peer-Reviewed Publications

1. Round J, **Kirwin E**, van Katwyck S, McCabe C. *Improving Transparency of Decision Models Through the Application of Decision Analytic Models with Omitted Objects Displayed (DAMWOOD)*. 2024. Pharmacoeconomics.
2. Rafferty E, Unsal A, **Kirwin E**. *Healthcare Costs and Effects of Post-COVID-19 Condition in Canada*. 2023. Canada Communicable Disease Report.
3. 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*. 2023. International Journal of Health Technology Assessment.
4. **Kirwin E**, Meacock R, Round J, Sutton M. *The Diagonal Approach: A theoretic framework for the economic evaluation of vertical and horizontal interventions in healthcare*. 2022. Social Science & Medicine.
5. **Kirwin E**, Bond K, Round J, McCabe C. *A Conceptual Framework for Life-Cycle Health Technology Assessment*. 2022. Value in Health [Editor's Choice]
6. **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.
7. 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.
8. 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.
9. **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.
10. 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.

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11. 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*.
12. 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

13. **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]
14. Wiggins M, Varughese M, Rafferty E, van Katwyck S, McCabe C, Round J, **Kirwin E**. *The Decision Uncertainty Toolkit: Risk Measures and Visual Outputs to Support Decision Making During Public Health Crises*.
15. **Kirwin E**, Meacock R, Round J, Sutton M. *Costs and Benefits of Incentivizing Physicians to Enhance Care of Patients with Complex Conditions: Econometric Evidence from Patient Migration*.
16. **Kirwin E**, Meacock R, Round J, Sutton M. *The impact of diagnostic imaging wait time on patient mortality and health system cost*.
17. Wiggins M, Pandey H, Round J, Waye A, Ueyama M, **Kirwin E**. *The cost-effectiveness of a diabetes prevention program in Alberta, Canada*
18. Wiggins M, Round J, Ueyama M, **Kirwin E**. *Optimizing diagnostic imaging wait times by scan urgency to improve health system outcomes*.

Other Published Work

19. **Kirwin E**, Bond K, Round J, McCabe C. *Response to: Comments on A Conceptual Framework for Life-Cycle Health Technology Assessment*. 2023. *Value in Health*.
20. **Kirwin E**, MacDonald S, Simmonds K. *Profiles in Epidemiology: Dr. Larry Svenson*. 2022. *American Journal of Epidemiology*.

Appointments

[July 2019 – Present] Institute of Health Economics
Senior Principal Health Economist

[March 2024 – Present] University of Manchester
Honorary Senior Research Fellow

[July 2017 – July 2019] Alberta Health
Manager, Advanced Analytics

[July 2011 – July 2017] Alberta Health
Public Health Economist

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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)

Additional Funding

Conference support. **University of Manchester Doctoral Academy Conference Support Fund.** Society for Medical Decision Making Annual Meeting, Philadelphia, USA. (October 2023, £500)

Conference support. **HTAi.** HTAi Annual Meeting, Adelaide, Australia. (June 2023, \$2,800 USD)

Conference support. **University of Manchester Doctoral Academy Conference Support Fund.** European Health Economics Association (EuHEA) PhD and Early Career Research Meeting, Galway, Ireland. (August 2022, £500)

Conference support. **Health Economics Study Group.** Health Economics Study Group Meeting Summer 2022, Sheffield UK. (June 2022, approx. £400)

Travel Support. **Quebec Youth Travel Forum.** World Youth Congress, Canadian Delegate, Istanbul, Turkey. (June 2010, \$600 CAD)

Stipend. **Burgess Family Award, McGill Arts Internship Office.** Field Assistant Intern, Hatua Kenya, Kisumu, Kenya. (Summer 2009, \$3000 CAD)

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Conference Papers and Presentations (Posters Excluded)

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*. 2023. Vancouver Health Economics Methods Meeting [Accepted oral presentation]

Kirwin E, McCabe C, Round J. *The Decision Uncertainty Toolkit: Risk Measures and Visual Outputs to Support Health Technology Decision-making During Public Health Crises*. 2023. HTAi Annual Meeting [Accepted oral presentation]

Kirwin E, Paulden M, McCabe C, Round J, Sutton M, Meacock R. *The Risk-Based Price*. 2023. HTAi Annual Meeting [Accepted oral presentation]

Kirwin E, Meacock R, Round J, Sutton M. *Costs and Benefits of Incentivizing Physicians to Enhance Care of Patients with Complex Conditions: Econometric Evidence from Patient Migration*. 2022. European Health Economics Association PhD Student and Early Career Researcher Conference, Ireland. [Paper discussed in dedicated session]

Kirwin E, Meacock R, Round J, Sutton M. *Costs and Benefits of Incentivizing Physicians to Enhance Care of Patients with Complex Conditions: Econometric Evidence from Patient Migration*. 2022. Sheffield Health Economics Study Group. [Paper discussed in dedicated session]

Round J, **Kirwin E**, van Katwyck S, McCabe C. *The Morals of Models: Improving Public Understanding of Decision Models Through the Application of Decision Analytic Models With Omitted Objects Displayed (DAMWOOD)*. Sheffield Health Economics Study Group. [Paper discussed in dedicated session]

Kirwin E, Paulden M, McCabe C, Round J, Sutton M, Meacock R. *The Risk-Based Price*. 2021. CADTH [Oral presentation]

Kirwin E, Paulden M, McCabe C, Round J, Sutton M, Meacock R. *The Risk-based Price*. 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](#). [Oral hybrid presentation]

Conference Course Instruction

Kirwin E, van Katwyck S, McCabe C, Round J. *Research Oriented Market Access for High-Cost Therapies, Principles and Practice*. 2022, 2023. Health Technology Assessment international (HTAi) Conference.

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Guest Lectures

McGill University Quantitative Life Sciences. November 2023
University of York Centre for Health Economics. September 2023
University of Alberta Department of Mathematics. March 2023

Invited Oral Presentations (Selected)

Kirwin E. 2022. University of York Centre for Health Economics. *The Risk-Based Price: incorporating uncertainty and risk attitudes in health technology pricing.*

Kirwin E. 2022. University of Alberta Department of Economics. *The Diagonal Approach: A Theoretic Framework for the Economic Evaluation of Vertical and Horizontal Interventions in Healthcare.*

Kirwin E. 2021. Pennsylvania State University Health Services Research Colloquium. *The Diagonal Approach.*

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 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 Rounds III. *Administrative Data Analytics at Alberta Health.*

Kirwin E. 2013- 2018. Alberta Advisory Committee on Immunization. *Various evidence and modelling presentations.*

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

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

Journal Refereeing

Health Economics, Pharmacoeconomics, PLOS One, International Journal of Health Technology Assessment

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Additional Training

[2020] Michigan State University, Professor Jeff Wooldridge, Virtual

ÊSTIMATE: The Reduced Form

Econometrics 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 Management Techniques, Macro Language

[2012] PIMS-Mprime-CDM Summer School, University of Alberta, Edmonton, Canada

Mathematical Modeling of Infectious Diseases

Theory and methods for modeling infectious diseases with MATLAB and Mathematica.

Software

R, SAS, Mathematica, Stata

Conference/Meeting Organization

Alberta Health Economics Study Group, Calgary, Alberta, 2022

Memberships

Network of Alberta Health Economists: Member, Current. Former working group chair.

UK Health Economics Study Group. Member, Current

Professional Society for Health Economics and Outcomes Research: Member, Current

Society for Medical Decision Making: Member, Current

Canadian Chronic Disease Surveillance System Economic Committee: Alberta Delegate

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