

# ELISABET RODRIGUEZ LLORIAN

## CURRICULUM VITAE

**Work Address:**  
Ministry of Health  
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## EDUCATION & TRAINING

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<b>Postdoctoral Fellowship (Health Economics)</b> University of British Columbia, Canada	06/2020 - 11/2022
<b>Ph.D. (Economics, Health Economics)</b> University of Manitoba, Canada	09/2016 - 05/2020
<b>M.A. (Economics)</b> University of Manitoba, Canada	09/2015 - 07/2016
<b>Bachelor Summa Cum Laude (Economics)</b> University of Havana, Cuba	09/2009 - 07/2014

## PROFESSIONAL EXPERIENCE

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<b>Economist</b> Pharmaceutical Services Analysis and Evaluation Team Health Sector Information Analysis and Reporting Division BC Ministry of Health	12/2022 – current
<ul style="list-style-type: none"><li>Plan, lead and conduct advanced economics, statistical and policy/scenario analysis and forecasting projects to improve the delivery of healthcare.</li><li>Define scope, objectives, performance indicators, data requirements and evaluation models to support initiatives undertaken by the Ministry.</li><li>Advise senior executives on matters directly impacting goals, objectives and financial commitments of the Ministry.</li></ul>	
<b>Postdoctoral Research Fellow (Health Economics)</b> Collaboration for Outcomes Research and Evaluation (CORE) Faculty of Pharmaceutical Sciences The University of British Columbia (UBC), Canada	06/2020 – 12/2022
<ul style="list-style-type: none"><li>Lead and contributed to numerous health economics and health policy projects across major research studies including the GenCOUNSEL project (Optimization of genetic counselling for clinical implementation of genome-wide sequencing), the CanProCo study (Canadian prospective cohort</li></ul>	

study to understand progression in multiple sclerosis), and the Nanomedicines Innovation Network's early Health Technology Assessment Platform, amongst others.

- Successfully secured funding from the Mitacs Accelerate program and an endMS Postdoctoral Fellowship Award.
- Served in faculty committees including a professional development advisory group and the equity, diversity and inclusion advisory committee.
- Co-supervised students and junior research staff.

**Guest Lecturer**, Evidence based Genomic Counselling

01/2022

Lectures (3): The Economics of Genomic Medicine

Department of Medical Genetics, University of British Columbia

- Prepared and recorded 3 separate modules on health economics and economic evaluation tools.

**Instructor**

09/2018 - 04/2020

Classes: Economic Analytics using Computer-Based Methods; Introduction to Microeconomics

Economics Department, University of Manitoba

- Planned and facilitated classes, contributing to the development of the topics and materials.
- Created course evaluations, ensuring consistency across lectures, assignments and exams.
- Used innovative instructional technology, supported by the combination of a variety of platforms and materials, in order to enhance learning.

**Guest Lecturer**, Seminar in Applied Econometrics

01/2017, 01/2018, 01/2019

Lectures (2): Introduction to Panel Data

Economics Department, University of Manitoba

- Enhanced students' research design knowledge by teaching a combination of panel data theory, applicability to research questions, and use of Stata to collect, clean and analyze relevant data.
- Co-supervised students with panel data projects, contributing to an improved understanding of data collection and analysis.

**Research Assistant**

01/2016 - 04/2020

Economics Department, University of Manitoba

- Main Research Projects:
  - Community-Based Organizations: Experiences with Neighbourhoods Alive! and the Building Sustainable Communities Program (PI: Dr. Shauna MacKinnon)
  - The unintended consequences of fuel ethanol: market competitiveness and climate change (PI: Dr. Janelle Mann)
  - Evaluation of IT in healthcare: the benefits of telemedicine and electronic medical records (PI: Dr. Gregory Mason)
  - Assessment of the Mary River Project: Impacts and Benefits (PI: Dr. John Loxley)
- Participated in survey design.
- Conducted literature reviews and created case studies.

- Contributed to the preparation of applications for research grants by providing assistance in research design and manuscript writing.
- Collected and processed data; performed statistical analysis.

**Teaching Assistant** (more than ten courses) 01/2016 - 04/2018  
Economics Department, University of Manitoba

- Taught selected lessons and led office hours, providing individual instruction on a weekly basis.
- Graded assignments and exams, providing written feedback and ideas for improvement.

**Junior Assistant Professor** 08/2014 - 08/2015  
School of Economics, University of Havana, Cuba

- Classes Taught: Intermediate Macroeconomics; System of National Accounts
- Participated in public policy advisory research groups, leading knowledge translation and building relations with policy makers.
- Evaluated, monitored and mentored student academic progress, while actively engaging students in departmental research projects.
- Served and supported departmental committees.

**Intern**, National Office of Statistics (240 hours annually) 09/2011 - 02/2014  
National Office of Statistics, Cuba

- Supported data collection processes by updating and maintaining data inputs and protocols.
- Analyzed data, supporting the production of statistical publications and reports.

## RESEARCH GRANTS

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**endMS Postdoctoral Fellowship Award**, \$41,000 (1 year) 2022 - 2023  
Used from July 2022 – November 2022, declined due to completion of Postdoctoral Fellowship  
Project: “The Economic Burden of Multiple Sclerosis in Canada: Exploring Policy and Research Implications Through Real-World Data”  
Role: Main Applicant; Supervisor: Dr. Larry Lynd

**Mitacs Accelerate**, \$90,000 over 6 internships (each 4 months-length) 2021 - 2023  
Used from September 2021-July 2022, declined in favor of the endMS Fellowship  
Host: The University of British Columbia  
Partner Institution: Centre for Health Evaluation and Outcome Sciences (CHEOS)  
Project: “Predictive modeling in MS: using real-world data to inform practice, policy, and research”  
Role: Main Applicant; Supervisors: Dr. Larry Lynd & Dr. Wei Zhang

**NanoMedicines Innovation Network (NMIN) Strategic Initiatives**, \$240,000 2021 - 2023  
Project: “An early health technology assessment (eHTA) platform to inform nanomedicine development decisions and improve commercialization”  
Role: Investigator; PI: Dr. Larry Lynd, Technical Lead: Dr. Nick Dragojlovic

**The Dr. Paul H. T. Thorlakson Foundation Fund Grant**, \$18,786 2018 - 2019

Project: “Economic Evaluation of IT in Healthcare: the benefits of telemedicine and EMRs”

Role: Graduate Student Collaborator; PI: Dr. Gregory Mason

## AWARDS & RECOGNITIONS

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Postdoctoral Fellow Outstanding Service Award, \$200	2022
Faculty of Arts Endowment Fund; \$800-\$900	2017, 2020
Clarence Barber Memorial Award (Economics student with high academic standing); \$1,850	2017
International Graduate Student Scholarship; \$5,400	2016, 2017
University of Manitoba Graduate Fellowship (UMGF); \$72,000 over 48 months	2016
J.S. Lightcap Award (Highest-ranked Ph.D. applicant in the UMGF competition); \$8,000	2016
Alfred Rea Tucker Memorial Scholarship; \$3,150 (Top-ranked Master student UMGF)	2015
International Graduate Student Entrance Scholarship (IGSES); \$5,448	2015
Manitoba Graduate Scholarship (MGS); \$15,000 over 12 months	2015
University of Manitoba Graduate Fellowship; \$14,000 (Declined in favor of the MGS)	2015
First Position, National Forum for Students of Social Sciences	2014
First Position, Annual Research Student Seminar of the School of Economics	2014
First Position, University of Havana Student Scientific Forum	2013

### Conference Grants

Highly qualified personnel Nanomedicine Innovation Network travel award; \$400	2022
Postdoctoral Fellow Travel Award, The University of British Columbia; \$250	2021
University of Manitoba Graduate Students’ Association Conference Grant; \$500	2018
Faculty of Arts Graduate Student Conference Travel Award; \$200 -\$350	2016, 2017, 2018
Conference Travel Grant Canadian Economics Association; \$200-300	2016, 2017, 2018
Faculty of Graduate Studies Travel Award; \$750	2016, 2017

## RESEARCH & PUBLICATIONS

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### Journal Articles (Peer-Reviewed)

Borle, K., Kopac, N., Dragojlovic, N., **Rodriguez Llorian E.**, & Lynd, L. D. (2023). Defining Need Amid Exponential Change: Conceptual Challenges in Workforce Planning for Clinical Genetic Services. *Clinical Therapeutics*, 45(8), 695–701. <https://doi.org/10.1016/j.clinthera.2023.07.005>

**Rodriguez Llorian, E.**, Kopac, N., Waliji, L. A., Borle, K., Dragojlovic, N., Elliott, A. M., & Lynd, L. D. (2023). A Rapid Review on the Value of Biobanks Containing Genetic Information. *Value in Health*, 26(9), 1286–1295. <https://doi.org/10.1016/j.jval.2023.02.017>

**Rodriguez Llorian, E.**, Waliji, L. A., Dragojlovic, N., Michaux, K. D., Nagase, F., & Lynd, L. D. (2023). Frameworks for Health Technology Assessment at an Early Stage of Product Development: A Review and Roadmap to Guide Applications. *Value in Health*, 26(8), 1258–1269. <https://doi.org/10.1016/j.jval.2023.03.009>

**Rodriguez Llorian, E.**, Zhang, W., Khakban, A., Michaux, K., Patten, S., Traboulsee, A., Oh, J., Kolind, S., Prat, A., Tam, R., & Lynd, L. D. (2023). Employment status, productivity loss, and associated factors among people with multiple sclerosis. *Multiple Sclerosis Journal*, 29(7), 866–874. <https://doi.org/10.1177/13524585231164295>

Khakban, A., **Rodriguez Llorian E.**, Michaux, K.D., Patten, S., Traboulsee, A., Oh, J., CanProCo Study Team & Lynd, L.D. (2022). Direct health care costs associated with multiple sclerosis: A population-based cohort study in British Columbia, Canada, 2001–2020. *Neurology*, 100(9), e899–e910. <https://doi.org/10.1212/WNL.0000000000201645>

**Rodriguez Llorian E.**, Dragojlovic N., Campbell, T., Friedman J., Osiovich, H., RAPIDOMICS Study, Elliott A. M., & Lynd L. D. (2022). The Impact of rapid exome sequencing on downstream healthcare utilization for infants with suspected genetic disorders in an intensive care unit. *Genetics in Medicine*, 24(8), 1675–1683. <https://doi.org/10.1016/j.gim.2022.04.014>

**Rodriguez Llorian, E.**, Zhang, W., Khakban, A., Patten, S., Traboulsee, A., Oh, J., Kolind, S., Prat, A., Tam, R., & Lynd, L. D. (2022). Productivity losses among people with early Multiple Sclerosis. A Canadian Study. *Multiple Sclerosis Journal*, 28(9), 1414-1423. <https://doi.org/10.1177/13524585211069070>

Borle, K., Kopac, N., Dragojlovic, N., **Rodriguez Llorian, E.**, Friedman, J. M., GenCOUNSEL Study, Elliott, A. M., & Lynd, L. D. (2022). Where is genetic medicine headed? Exploring the perspectives of Canadian genetic professionals on future trends using the Delphi method. *European Journal of Human Genetics*, 30(5), 496-504. <https://doi.org/10.1038/s41431-021-01017-2>

**Rodriguez Llorian, E.**, & Mann, J. (2022). Exploring the Technology-Healthcare Expenditure Nexus: A Panel Error Correction Approach. *Empirical Economics*, 62(6), 3061-3086. <https://doi.org/10.1007/s00181-021-02125-0>

**Rodriguez Llorian, E.**, & Mason, G. (2021). Electronic Medical Records and Primary Care Quality: Evidence from Manitoba. *Health Economics*, 30(5), 1124-1138. <https://doi.org/10.1002/hec.4249>

**Rodriguez Llorian, E.**, & Mason, G. (2021). Healthcare Utilization and Telemedicine: An Evaluation Using Linked Administrative Data from Manitoba. *Journal of Telemedicine and Telecare*, 0(0), 1-9. <https://doi.org/10.1177/1357633X20981227>

**Rodriguez Llorian, E.**, & Mann, J. (2020). Data on medical technology: A new set of variables. *Data in Brief*, 30, 105534. <https://doi.org/10.1016/j.dib.2020.105534>

Doimeadios Reyes, Y., & **Rodriguez Llorian, E.** (2015). Un análisis comparado de eficiencia y eficacia en el sector público en Cuba. *Economía y Desarrollo*, 155(2), 44-59. <https://www.redalyc.org/articulo.oa?id=425543135004>

### **Working Papers**

Dragojlovic, N., Kopac, N., **Rodriguez Llorian, E.**, Lehman, A. & Lynd, L. D. Preparing Canadian health systems for genomic medicine in an era of gene therapy: A population-based model for estimating the number of patients with rare disease variants detected as secondary findings from genome-wide sequencing.

Coleman, J., Khakban, A., Borle, K., **Rodriguez Llorian E.** & Lynd, L. D. Exploring factors affecting genetic counsellor's career preferences: a discrete choice experiment [Student project]

Greenfield J., Metz L., Khakban A., **Rodriguez Llorian E.**, Michaux K., Traboulee A, Oh J., Smyth P., Lynd L.D, Bulloch A., Williams J., Patten S. Cancer Risk and Disease-Modifying Therapies in Multiple Sclerosis: A Retrospective Population-Based Cohort Study [Submitted to *Multiple Sclerosis and Related Disorders*).

### **Newspaper and magazine articles**

Mason, G. & **Rodriguez Llorian, E.** (2020, July 17). Virtual care will revolutionize Canadian health care. *Financial Post*. Retrieved from <https://financialpost.com/opinion/virtual-care-will-revolutionize-canadian-health-care/wcm/86521533-881b-4396-ad76-a9a081e8af79/>

**Rodriguez Llorian, E.**, Álvarez Mendez, O., and Cribeiro Diaz, Y. (2015, April). Impacto del diferencial de precios de importación sobre la balanza comercial de Cuba: el caso de los alimentos. *Revista Mercado*, 8-14. Retrieved from <http://www.procuba.cu/es/content/no73-abril-junio-2015>

### **Research Reports**

**Rodriguez Llorian, E.**, & Loxley, J. (2019). *A Framework for Assessing Social Impact of The Jubilee Fund: The Case of Daycare Programs*. Report prepared for the Jubilee Fund.

Loxley, J., & **Rodriguez Llorian, E.** (2019). *The Impact of the Mary River Project on GDP Forecasts for Nunavut: A Critical View*. Report prepared for Oceans North.

### **Conference Proceedings**

**Rodriguez Llorian, E.**, & Mann, J. (2017). *The Relationship between Healthcare Expenditure and Income in Latin American and Caribbean Countries: A Panel Time Series Approach*. Canadian Stata Users' Group Meetings 2017 03, Stata Users Group. Available at <https://ideas.repec.org/p/boc/csug17/03.html>

## **PRESENTATIONS**

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### **Invited Seminar Presentations**

Application of early health technology assessments to nanomedicine: a review of conceptual frameworks. At the Nanomedicine Innovation Network high-qualified personnel presentation series, University of British Columbia (2022, May). [https://www.youtube.com/watch?v=BiH90l\\_IK8A&t=577s](https://www.youtube.com/watch?v=BiH90l_IK8A&t=577s)

Productivity Loss Among People with Multiple Sclerosis: A Canadian Study. At the University of Regina. Department of Economics (2021, October)

### **Research Conference Presentations (presenter in bold)**

Rodriguez Llorian, E., Waliji, L., **Dragojlovic, N.**, Michaux, K., Nagase, F., Lynd, L.D. (2023, May). Frameworks for Health Technology Assessments at an Early Stage of Product Development: A Review and Roadmap to Guide Applications [Poster]. 2023 CADTH Symposium, Ottawa, ON, Canada.

**Rodriguez Llorian, E.,** Waliji, L., Dragojlovic, N., Michaux, K., Lynd, L.D. (2022, June). *Application of early health technology assessments to nanomedicine: a review of conceptual frameworks* [Poster]. Liposomes Research Days, University of British Columbia, Vancouver, BC, Canada.

**Rodriguez Llorian, E.,** Zhang, W., Khakban, A., Patten, S., Traboulee, A., Oh, J., Kolind, S., Prat, A., Tam, R., & Lynd, L.D. (2022, May). *Impairment of working ability amongst people with Multiple Sclerosis. A Canadian study on employment status, productivity losses and associated determinants* [Presentation]. Graduate Student and Postdoctoral Fellow Research Symposium, University of British Columbia, Vancouver, BC, Canada

**Borle, K.,** Kopac, N., Dragojlovic, N., Rodriguez Llorian E., & Lynd, L.D. (2021, October). *Defining need amid exponential change: conceptual challenges in workforce planning for genetic medicine* [Oral Lightning Talk]. World Congress on Genetic Counselling, Virtual Conference.

**Khakban, A.,** Rodriguez Llorian, E., Patten, S., Traboulee, A., & Lynd, L.D. (2021, October). *Direct cost associated with Multiple Sclerosis and Important Components; A Population-Based Study 1997-2017* [Poster Presentation]. 2021 Annual Meeting of the Consortium of Multiple Sclerosis Centers, Orlando, FL, USA

**Rodriguez Llorian, E.,** Zhang, W., Khakban, A., Patten, S., Traboulee, A., Oh, J., Kolind, S., Prat, A., Tam, R., & Lynd, L.D. (2021, June). *Productivity Loss Among People with Multiple Sclerosis: A Canadian Study* [Presentation]. Canadian Economics Association Annual Conference, Burnaby, BC, Canada

**Rodriguez Llorian, E.,** Zhang, W., Khakban, A., Patten, S., Traboulee, A., Oh, J., Kolind, S., Prat, A., Tam, R., & Lynd, L.D. (2021, May). *Productivity Loss Among People with Multiple Sclerosis: A Canadian Study* [Presentation]. Graduate Student and Postdoctoral Fellow Research Symposium, University of British Columbia, Vancouver, BC, Canada

**Borle K,** Kopac N, Dragojlovic N, Rodriguez Llorian E, Friedman J, Elliott AM, & Lynd L. (2021, April). *Future trends in clinical genetics services: exploring the perspectives of Canadian genetics professionals using the Delphi method* [Poster Presentation]. American College of Medical Genetics annual conference, Virtual Format  
<https://www.sciencedirect.com/science/article/pii/S1096719221006338>

Joseph, H., Borle, K., Dragojlovic, N., Dhillon, M., Kitchin, V., Kopac, N., **Rodriguez Llorian, E.,** Ross, C., & Lynd, L.D. (2020, September). *Economic Evidence on Potentially Curative Gene Therapy Products: A Systematic Review* [Poster Presentation]. Virtual Vancouver Nanomedicine Day, Vancouver, BC, Canada

**Rodriguez Llorian, E.** & Mann, J. (2018, June). *The Technology-Healthcare Expenditure Nexus for Developed Countries: An Investigation for OECD Member Countries and Canadian Provinces* [Presentation]. Canadian Economics Association Conference, Montreal, QB, Canada

**Rodriguez Llorian, E.** & Mann, J. (2017, June). *Relation between Health Care Expenditure and Income in Latin-American Countries: A Panel Time Series Approach* [Presentation]. Canadian Stata Users Group Meeting, Ottawa, ON, Canada

**Rodriguez Llorian, E. & Mann, J.** (2017, June). *Relation between Health Care Expenditure and Income: Evidence from Latin-American and Caribbean Countries* [Presentation]. Canadian Economics Association Conference, Antigonish, NS, Canada

Doimeadios Reyes, Y., & **Rodriguez Llorian, E.** (2016, June). *Efficiency and Effectiveness: Analysis of the Public Sector in Cuba* [Presentation]. Canadian Economics Association Conference, Ottawa, Canada

**Rodriguez Llorian, E.** (2015, May). *A fiscal sustainability analysis for the Cuban economy* [Presentation]. National Forum for Students of Social Sciences, Pinar del Rio, Cuba

**Rodriguez Llorian, E. & Doimeadios Reyes, Y.** (2014, June). *A Comparative Analysis of Efficiency and Performance of the Public Sector in Cuba* [Presentation]. Scientific Annual Student Seminar of the School of Economics, Havana University, Cuba

**Rodriguez Llorian, E.** (2013, November). *A fiscal sustainability analysis for the Cuban economy* [Presentation]. University of Havana Student Scientific Forum, Havana, Cuba

## **STUDENT SUPERVISION**

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MA (Genetic Counseling Directed Studies) Research Paper Co-supervisor, UBC	2021
MA (Economics Program) Research Paper Co-supervisor, University of Manitoba	2019
Undergraduate (Economics Program) Research Poster Co-supervisor, University of Manitoba	2018
Undergraduate (Economics Program) Supervisor, University of Havana	2014

## **SERVICE**

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### **Manuscript Reviews**

Multiple Sclerosis and Related Disorders Journal (1 paper)

Letters in Spatial and Resource Sciences (1 paper)

Canadian Economics Association Annual Conference 2018 (Discussant, 1 paper)

Canadian Economics Association Annual Conference 2017 (Discussant, 1 paper)

### **Leadership**

#### **University of British Columbia**

Equity, Diversity and Inclusion Advisory Committee (EDIAC) Member 03/2022 - 10/2022

Graduate & Postdoctoral Trainee Career & Professional Development Advisory Group Member  
10/2020 - 10/2022

Judge Poster Competition, Graduate Student and Postdoctoral Fellow Research Symposium 05/2022

Judge Poster Competition, Summer Student Research Program 10/2020, 10/2021, 10/2022

#### **University of Manitoba**

Student Representative, Economics and Global Political Economy Hiring Committee 09/2019 - 02/2020

Organizer, Discovery Day 2019 (outreach event), Manitoba Center for Health Policy 10/2019

Student Representative, Economics Headship Selection Committee 09/2018 - 11/2018

## University of Havana

Organizing Committee, Economics, Accounting & Administration International Conference 10/2014  
Organizing Committee, Development Opportunities & Challenges Latin America Conference 04/2014  
Head of the Students' Union Academic Committee 09/2012 - 06/2014

## PROFESSIONAL DEVELOPMENT

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Certificate, **Biopharma Revenue Forecasting Course** 05/2022  
Biotech Primer's Online Life Sciences Executive Training Course  
Certificate, **Incorporating reconciliation, equity, diversity, and inclusion into your project** 02/2021  
Mitacs professional development curriculum  
Certificate, **Designing Multiple Choice Questions** 11/2018  
The Centre for the Advancement of Teaching and Learning, University of Manitoba  
Certificate, **Teaching Online Effectively** 08/2018  
The Centre for the Advancement of Teaching and Learning, University of Manitoba  
Certificate, Tri-Council Policy Statement, **Ethical Conduct for Research Involving Humans Course on Research Ethics (TCPS 2: CORE)** 10/2017, updated 04/2022  
Accreditation, Manitoba Centre for Health Policy 05/2017  
University of Manitoba **Teaching Assistant Training Seminar** 09/2016

## LANGUAGES & IT KNOWLEDGE

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- Spanish - Native proficiency; English - Full professional proficiency
- Statistical software/programming language: Stata, SAS, Eviews, R, SQL, and Rats
- Proficient in all major Microsoft Office applications, including advanced formulae in Excel