

Monica Alexander

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Academic Appointments

University of Toronto

Assistant Professor, Statistical Sciences and Sociology

July 2018 – *current*

Professional Appointments

Lead technical advisor

World Health Organization Group

on Estimation of Causes of Maternal Mortality

January 2019 – *current*

Fellow

Institute for Clinical Evaluative Sciences

January 2019 – *current*

Member

Technical Advisory Group to the World Health Organization

on Violence Against Women (Estimation and Data)

January 2018 – *current*

Education

Ph.D (Demography), **University of California, Berkeley**, 2018.

Dissertation title: Bayesian Methods for Mortality Estimation.

Committee: Josh Goldstein (chair); Ken Wachter; Dennis Feehan; Jas Sekhon.

M.Arts (Statistics), **University of California, Berkeley**, 2015.

M.Social Research (Demography), **Australian National University**, 2013.

B.Science (First Class Honors) (Maths and Chemistry), **University of Tasmania**, 2008.

Papers

Peer-reviewed articles

Alexander, M., Polimis, K., and Zagheni, E., ‘The impact of Hurricane Maria on out-migration from Puerto Rico: Evidence from Facebook data’, *Population and Development Review*, accepted. Preprint: <https://osf.io/preprints/socarxiv/39s6c/>.

Hug, L., **Alexander, M.**, You, D., and Alkema, L. ‘National, regional, and global levels and trends in neonatal mortality between 1990 and 2017, with scenario-based projections to 2030: a systematic analysis by the United Nations Inter-agency Group for Child Mortality Estimation’, *Lancet Global Health*, 2019, 7(6): 710–720.

Kiang, M.V., Basu S., Chen J., and **Alexander, M.** ‘Assessment of Changes in the Geographical Distribution of Opioid-Related Mortality Across the United States by Opioid Type, 1999-2016’. *JAMA Network Open*. 2019, 2(2):e190040.

Gemmill, A., Kiang, M.V., and **Alexander, M.** ‘Trends in pregnancy-associated mortality involving opioids in the United States, 2007–2016’, *American Journal of Obstetrics and Gynecology*, 2019, 220(1): 115–116.

Alexander, M., Kiang, M.V., and Barbieri M., ‘Trends in Black and White Opioid Mortality in the United States, 1979–2015’, *Epidemiology*, 2018, 29(5): 707–715.

Alexander, M., and Alkema, L., ‘Global Estimation of Neonatal Mortality using a Bayesian Hierarchical Splines Regression Model’, *Demographic Research*, 2018, 38(15): 335–372.

Alexander, M., Zagheni, E., and Barbieri, M., ‘A Flexible Bayesian Model for Estimating Subnational Mortality’, *Demography*, 2017, 54(6): 2025–2041.

Howlett, M., Gray, M., and Hunter, B., ‘Wages, government payments and other income of Indigenous and non-Indigenous Australians’, *Australian Journal of Labour Economics*, 2016, 19(2): 53–76.

Hunter, B., **Howlett, M.**, and Gray, M., ‘The Economic Impact of the Mining Boom on Indigenous and Non-Indigenous Australians’, *Asia & the Pacific Policy Studies*, 2015, 2(3): 517–530.

Gray, M., **Howlett, M.**, and Hunter, B., ‘Labour Market Outcomes for Indigenous Australians’, *The Economic and Labour Relations Review*, 2014, 25(3): 497–517.

Biddle, N., **Howlett, M.**, Hunter, B., and Paradies, Y., ‘Labour Market and Other Discrimination Facing Indigenous Australians’, *Australian Journal of Labour Economics*, 2013, 16(1): 91–113.

Other published papers

Hunter, B., **Howlett, M.**, and Biddle, N., ‘Modelling Exposure to Risk of Experiencing Discrimination in the Context of Endogenous Ethnic Identification’, *IZA Discussion Paper #8040*, March 2014.

Gray, M., Hunter, B., and **Howlett, M.**, ‘Indigenous Employment: A Story of Continuing Growth’, *CAEPR Topical Issue 2/2013*, Australian National University, Canberra.

Current working papers and manuscripts in progress

Alexander, M., ‘Temporal smoothers for use in demographic estimation and projection.’, https://www.monicaalexander.com/pdf/temporal_smoothing.pdf.

Alexander, M., and Goldstein, J., ‘Deaths without denominators: using a matched dataset to study mortality patterns in the United States’, https://www.monicaalexander.com/pdf/bayesian_censoc.pdf.

Alexander, M., and Alkema, L., ‘A Bayesian hierarchical model for estimating subnational female populations in developing countries’, https://www.monicaalexander.com/pdf/bayesian_kenya.pdf.

Alexander, M., and Alexander, R., ‘The Effect of Events on Discussion in the Australian Federal Parliament (1901–2017)’, abstract: https://rohanalexander.com/pdf/2018-10-22-first_page.pdf.

Alexander, M., Polimis, K., and Zagheni, E., ‘Combining Social Media Data and Traditional Surveys to Estimate and Predict Migration Stocks’, <https://paa.confex.com/paa/2018/meetingapp.cgi/Paper/23641>.

Chung, P.H., and **Alexander, M.**, ‘Kin Dependency Ratios: An Extension and Application of the Goodman Method for Estimating the Availability of Kin’,
<https://p-chung.com/paa/2019/abstract/>.

Grants awarded

Social Sciences and Humanities Research Council	2019–2021
Insight Development Grant	
<i>Using Facebook data to measure and understand international migration patterns in Canada</i>	
CAD \$59,000	
University of Toronto Connaught New Researcher Award	2019-2020
CAD \$18,900	

Professional Experience

University of Massachusetts, Amherst	
<i>Graduate Student Researcher</i>	January 2017 – June 2018
World Health Organization	
<i>Consultant</i>	September 2016 – June 2017
Data Science for Social Good	
<i>Fellow</i>	May 2016 – September 2016
Human Mortality Database	
<i>Graduate Student Researcher</i>	January 2015 – May 2016
UNICEF Technical Advisory Group	
<i>Consultant</i>	March 2014 – July 2015
The Centre for Aboriginal Economic Policy Research	
<i>Research Officer</i>	April 2012 – December 2014
Reserve Bank of Australia	
<i>Analyst/Senior Analyst</i>	February 2010 – June 2013

Teaching

University of Toronto	
Demographic Methods	Winter Semester, 2019
University of California, Berkeley	
<i>Instructor, Formal Demography Workshop</i>	June, 2017
<i>Instructor, Formal Demography Workshop</i>	August, 2015
<i>Graduate Student Instructor, Demographic Methods</i>	Fall Semester, 2014
Other	
<i>Instructor, Introduction to Causal Inference, ITAM</i>	March, 2017
<i>Instructor, IUSSP Workshop on social media data and demography</i>	August, 2016

Conference presentations and invited talks

2019

Combining social media data and traditional surveys to predict migration stocks
Cornell Population Center, *Cornell University* (February)

2018

Combining social media data and traditional surveys to predict migration stocks
European Symposium in Computational Social Science: Cologne, Germany (December)
School of Geography, *University of Queensland* (November)
Institute for the Study of Social Change, *University of Tasmania* (October)
Symposium of Digital Demography: Rostock, Germany (October)
Center for Population Dynamics, *McGill University* (September)
European Population Conference: Brussels, Belgium (June)

Estimating subnational populations of women of reproductive age
International Society for Bayesian Analysis World Meeting: Edinburgh, Scotland (June)
European Population Conference: Brussels, Belgium (June)
Max Planck Institute for Demographic Research (May)
PAA Annual Meeting: Denver, CO (April)
Institute of Disease Modeling Symposium: Seattle, WA (April)

The spatial distribution of opioid mortality by race in the United States
European Population Conference: Brussels, Belgium (June)

2017

Modeling and understanding mortality disparities
School of Demography, *Australian National University* (December)
Department of Statistics, *University of Toronto* (December)
Department of Sociology, *University of Washington, Seattle* (November)

Temporal smoothers for use in demographic estimation
IUSSP: Cape Town, South Africa (October)
Statistics working group, *University of Massachusetts, Amherst* (February)

Opioid-related deaths by race in the United States: trends and patterns in multiple causes of death
PAA Annual Meeting: Chicago, IL (April).

2016

A flexible Bayesian model for estimating subnational mortality
Statistics working group, *University of Massachusetts, Amherst* (November)
European Population Conference: Mainz, Germany (August)
PAA Annual Meeting: Washington, DC (April)
Demography brown bag, *University of California, Berkeley* (March)

2015

Global estimation of neonatal mortality
UNICEF Inter-agency Group on Mortality Estimation (March, April and May)
PAA Annual Meeting: San Diego, CA (April)

Honors

Doctoral Completion Fellowship (<i>UC Berkeley</i>)	2017-2018
Elizabeth Scott Memorial Award (<i>UC Berkeley</i>) Statistics MA student showing the most promise in statistical research.	2015
Regents-Intern Fellowship (<i>UC Berkeley</i>)	2013-2015
Lado Ruzicka Prize in Social Research (<i>Australian National University</i>) Awarded to the most outstanding Master of Social Research candidate.	2013
W.D. Borrie Prize (<i>National essay competition, Masters category</i>) For best student paper on a population-related topic.	2012
University Medal (<i>University of Tasmania</i>) One of three awarded to the most outstanding Science and Technology undergraduates.	2008
Edith Rita Lowenstern Prize (<i>University of Tasmania</i>) Awarded to the most outstanding mathematics honors student.	2008

Service

Panel Member: *International Union of Scientific Study of Populations panel on Digital Demography.*

Founder and Organizer: *R-Ladies Toronto.* This community-led group aims to promote gender diversity in the R community in Toronto. Our community is designed to develop our members' R skills and knowledge through social, collaborative learning and sharing.

Reviewer: *Australian Journal of Labour Economics; Annals of Applied Statistics; Demography; Demographic Research; Epidemiology; European Journal of Population; Genus; Population Research and Policy Review.*