

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

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*, in press.

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., Polimis, K., and Zagheni, E., ‘The impact of Hurricane Maria on out-migration from Puerto Rico: Evidence from Facebook data’, working paper available on request.

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/>.

Kiang, M.V., **Alexander, M.**, Zhang, Z., and Chen, J., ‘The spatial distribution of opioid mortality by race in the United States, 1999-2015’, https://github.com/mkiang/opioid_hotspots.

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 Applied Demographic Methods	Winter Semester, 2019
University of California, Berkeley <i>Instructor</i> , Formal Demography Workshop	June, 2017
<i>Instructor</i> , Formal Demography Workshop	August, 2015
<i>Graduate Student Instructor</i> , Demographic Methods	Fall Semester, 2014
University of Tasmania <i>Tutor</i> , Calculus and Applications I	Semester 1, 2009
<i>Tutor</i> , Data Handling and Statistics I	Semester 2, 2008
<i>Demonstrator</i> , Chemistry I	Semester 1, 2008
Other <i>Instructor</i> , Introduction to Causal Inference, ITAM	March, 2017
<i>Instructor</i> , IUSSP Workshop on social media data and demography	August, 2016

Conference presentations and invited talks

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)

2014

Social and cultural determinants of the self-assessed health of Indigenous Australians

PAA Annual Meeting: Boston, MA (April) (Poster)

Honors

Doctoral Completion Fellowship (*UC Berkeley*) 2017-2018

Elizabeth Scott Memorial Award (*UC Berkeley*) 2015
 Statistics MA student showing the most promise in statistical research.

Regents-Intern Fellowship (*UC Berkeley*) 2013-2015

Lado Ruzicka Prize in Social Research (*Australian National University*) 2013
 Awarded to the most outstanding Master of Social Research candidate.

- W.D. Borrie Prize** (*National essay competition, Masters category*) 2012
For best student paper on a population-related topic.
- University Medal** (*University of Tasmania*) 2008
One of three awarded to the most outstanding Science and Technology undergraduates.
- Edith Rita Lowenstern Prize** (*University of Tasmania*) 2008
Awarded to the most outstanding mathematics honors student.
- Premier of Tasmania National Scholarship** (*University of Tasmania*) 2005-2008
One of four undergraduate scholarships awarded to outstanding secondary school students.
- Australian Student Prize** (*National award*) 2004
For academic excellence in secondary school. One of 500 awarded nationally, and 13 awarded to Tasmanian students.

Service

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.*