



Exponent®
Engineering & Scientific Consulting

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Professional Profile

Dr. Khan is an epidemiologist with expertise at the intersection of social and chronic disease epidemiology, population health, and health services research. Her areas of expertise include using real world data (RWD), causal inference methods, advanced analytical techniques for studies of health systems efficiency and capacity, and developing multi-level, data-driven solutions to address health inequities.

Dr. Khan has over 7 years of experience analyzing cohort studies, laboratory data, electronic health records (EHR), public and private claims data, surveys, and neighborhood/environmental data to evaluate health systems performance, assess quality improvement metrics, characterize health disparities, and conduct outcomes research. She has experience managing large-scale projects, designing and analyzing epidemiologic studies, evaluating and assessing biases in studies, conducting systematic reviews, synthesizing and interpreting evidence, scientific communication and conducting novel data linkages.

Prior to joining Exponent, Dr. Khan earned her Ph.D. in Epidemiology from the University of Michigan School of Public Health and an M.P.H. (Master of Public Health) from the Dalla Lana School of Public Health (Toronto, Canada). She completed her undergraduate degree from the University of Toronto (Toronto, Canada), where she specialized in health & disease in conjunction with a concentration in psychology. Previously, Dr. Khan worked as an epidemiologist at the Institute for Social Research, ICES (formerly Institute for Clinical Evaluative Sciences), and at the Occupational Cancer Research Center (Cancer Care Ontario, Toronto, Canada). In these roles, she conducted an array of health systems and epidemiology projects that included work on cardiovascular health systems performance, population-level disparities in morbidity, mortality and clinical care, real-world effectiveness of therapeutics, disease risk prediction models, cancer risk from environmental/workplace exposures, and neighborhood environments in relation to access to, and quality of healthcare. She has also been involved in the design of pragmatic clinical trials and implementation science projects involving patients and healthcare providers.

Dr. Khan has published in journals such as: JAMA Cardiology, Circulation, the BMC Series and Journal of Epidemiology and Community Health. She has been an invited speaker at several institutions and has presented her work at international conferences including AcademyHealth, Gerontology Society of America (GSA) Annual Meeting, and American Public Health Association (APHA).

Academic Credentials & Professional Honors

Ph.D., Epidemiological Science, University of Michigan, 2021

M.P.H., Epidemiology, University of Toronto, Canada, 2016

B.Sc., Health & Disease and Psychology, University of Toronto, Canada, 2014

Doctoral Foreign Study Award (DFSA), Canadian Institutes for Health Research (CIHR), Canada, [\$105,000 CDN over 3 years; competitive]

College of Literature, Science, and the Arts (LSA) and the Center for Research on Learning & Teaching (CRLT) Race & Ethnicity Learning Community, University of Michigan, [\$200 USD stipend]

Ontario Graduate Scholarship (OGS), University of Toronto, Toronto, Canada, [\$15,000 CDN; competitive]

Prior Experience

Graduate Student Research Assistant, Center for Social Epidemiology and Population Health and Institute for Social Research, University of Michigan, 2018-2021

Graduate Student Instructor, University of Michigan School of Public Health, 2019-2020

Grader, Epidemiology Capstone Writing Project, University of Michigan School of Public Health, 2019

Epidemiologist, ICES (formerly Institute for Clinical Evaluative Sciences), Toronto, Canada, 2016-2018

Epidemiologic Research Assistant, Dalla Lana School of Public Health, University of Toronto, Toronto, Canada, 2014-2016

Epidemiology Research Assistant, ICES (formerly Institute for Clinical Evaluative Sciences), Toronto, Canada, 2016

Epidemiology Research Assistant, Occupational Cancer Research Center, Cancer Care Ontario, Toronto, Canada, 2015

Community Involvement:

Associate Editor, Pre-Publication Support Services (PREPSS), University of Michigan School of Public Health

Member, Public Health Action Support Team (PHAST), University of Michigan School of Public Health, 2020 - 2021

Professional Affiliations

AcademyHealth

Gerontology Society of America (GSA)

American Public Health Association (APHA)

Disability Research Interest Group, AcademyHealth

Lifelong Disabilities Interest Group, Gerontology Society of America

Publications

Peer-reviewed Articles

Mahmoudi E, Lin P, Ratakonda S, Khan AM, Kamdar N, Peterson M. Preventative Services Use and Risk

Reduction for Potentially Preventative Hospitalizations among People with Traumatic Spinal Cord Injury. In press at Arch Phys Med Rehabil.

Khan AM, Finlay J, Clarke P, Sol K, Melendez R, Judd S, Gronlund C. Association Between Temperature Exposure and Cognition: A Cross-sectional Analysis of 20,687 Older Adults in the United States. BMC Public Health. 2021; 21: 1484

Finlay J, Esposito M, Li M, Kobayashi LC, Khan AM, Gomez-Lopez I, Melendez R, Colobianchi N, Judd S and Clarke P. Can Neighborhood Social Infrastructure Modify Cognitive Function? A Mixed-Methods Study of Aging Americans. J Aging Health. 2021; 33(9): 772-785

Finlay J, Khan AM, Gronlund C, Sol K, Jang J, Melendez et al. Weather Woes? Exploring potential Links between Precipitation and Age-related Cognitive Decline. Int J Environ Res Public Health. 2020; 17(23): 9011

Liu SY, Trope GE, Buys YM, El-Defrawy S, Khan AM, Jin YP. Visual impairment and the Ontario Disability Support Program. Can J Ophthalmol. 2020; 55(3): 212-220

Sparrow RT, Khan AM, Ferreira-Legere LE, Ko DT, Jackevicius CA, Goodman SG, et al. Effectiveness of Interventions Aimed at Increasing Statin-Prescribing Rates in Primary Cardiovascular Disease Prevention: A Systematic Review of Randomized Clinical Trials. JAMA Cardiol. 2019; 3066: E1-E10

Kapral MK, Austin PC, Jeyakumar G, Hall R, Chu A, Khan AM, Jin AY, Martin C, Manuel D, Silver FL, Swartz R, Tu JV. Rural-Urban Differences in Stroke Risk Factors, Incidence and Mortality in People with and without Prior Stroke: The CANHEART Stroke Study. Circ Cardiovasc Qual Outcomes. 2019 Feb; 12(2): 1-10

Shi O, Khan AM, Rezai MR, Jackevicius CA, Cox J, Atzema CL, Ko DT, Stukel TA, Lambert LJ, Natarajan MK, Zheng Z, Tu JV. Modifiable factors impacting door-in to door-out delays among STEMI patients transferred for primary percutaneous coronary intervention: a retrospective cohort study in Ontario, Canada. BMC Cardiovasc Disord. 2018 Oct; 18(1): 204

Ko DT, Khan AM, Kotrri G, Koh M, Chu A, Austin PC, Wijeyesundera HC, Tu JV. Eligibility, clinical outcomes, and budget impact of PCSK9 inhibitor adoption: The CANHEART PCSK9 study. JAMA. 2018 Nov; 7(21): 1-11

Khan AM, Trope G, Wedge R, Buys Y, El-Defrawy S, Chen Q and Jin Y. Policy Implications of Regional Variations in Eye Disease Detection and Treatment on Prince Edward Island: A Repeated Cross-sectional Analysis, 2010-2012. BMC Health Serv Res. 2018 Apr; 18(1): 273

Chu A, Khan AM, Tu JV. The potential use of big data in cardiovascular research. UTMJ. 2017 Jul 10;94(3):25-6

Khan AM, Urquia M, Kornas K, Henry D, Cheng SY, Bornbaum C, Rosella LC. Socioeconomic gradients in all-cause, premature and avoidable mortality among immigrants and long-term residents using linked death records in Ontario, Canada. J Epidemiol Community Health. 2017 Jul; 71(7): 625-32

Tu JV, Khan AM, Ng K, Chu A. Recent temporal changes in atherosclerotic cardiovascular diseases in Ontario: clinical and health systems impact. Can J Cardiol. 2017 Mar; 33(3): 378-84

Yucel YH, Gupta N, Kagan DB, Khan AM, Navajas EV, Jin YP. Author Reply. Ophthalmol. 2013 Jul; 120(7): e42-3

Khan AM*, Kagan DB*, Gupta N, Navajas EV, Jin YP, Yucel YH. Ciliary Body Lymphangiogenesis in Uveal Melanoma with and without Extraocular Extension. Ophthalmol. 2013 Feb; 120(2): 306-10

Publicly Available Datasets (Select)

Khan A, Li M, Finlay J, Esposito M, Gomez-Lopez I, Clarke P, and Chenoweth M. National Neighborhood Data Archive (NaNDA): Health Care Services by ZIP Code Tabulation Area, United States, 2003-2017. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2020-11-30. <https://doi.org/10.3886/E120463V2>

Khan A, Li M, Finlay J, Esposito M, Gomez-Lopez I, Clarke P, and Chenoweth M. National Neighborhood Data Archive (NaNDA): Health Care Services by Census Tract, United States, 2003-2017. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2020-11-30. <https://doi.org/10.3886/E120907V2>

Chenoweth M, and Khan A. National Neighborhood Data Archive: Code for merging ZIP code level datasets with the UDS Mapper ZIP code to ZCTA crosswalk. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2020-07-29. <https://doi.org/10.3886/E120088V1>

Li M, Gomez-Lopez I, Khan A, Clarke P, and Chenoweth M. National Neighborhood Data Archive (NaNDA): Broadband Internet Access by ZIP Code Tabulation Area, United States, 2014-2018. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2021-10-21. <https://doi.org/10.3886/E128841V2>

Finlay J, Li M, Esposito M, Gomez-Lopez I, Khan A, Clarke P, and Chenoweth M. National Neighborhood Data Archive (NaNDA): Social Services by ZIP Code Tabulation Area, United States, 2003-2017. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2020-11-10. <https://doi.org/10.3886/E126082V1>

Finlay J, Li M, Esposito M, Gomez-Lopez I, Khan A, Clarke P, and Chenoweth M. National Neighborhood Data Archive (NaNDA): Social Services by Census Tract, United States, 2003-2017. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2020-11-10. <https://doi.org/10.3886/E117163V2>

Full list of curated datasets on neighborhood contextual factors and updated versions can be found here: <https://www.openicpsr.org/openicpsr/nanda>

Presentations

Oral Presentations:

Khan AM, Lin P, Kamdar N, Mahmoudi E, Clarke P. Neighborhood Environment and Cardiometabolic Disease in Individuals Aging with Physical Disability, Gerontological Society of America (GSA) Annual Meeting [Oral Presentation]. Virtual November 2021

Khan AM, Bynum J, Mahmoudi E, Clarke P. Place and continuity of healthcare: Individual and neighborhood factors associated with care continuity in individuals aging with acquired physical disability. American Public Health Association (APHA) Annual Meeting [Oral presentation]. Virtual October 2021

Khan AM, Clarke P, Chenoweth M, Melendez R, Meade M. A National Neighborhood Data Archive (NaNDA) to Support Research on Environmental Factors for Healthy Aging with Disability. National Association of Rehabilitation Research and Training (NARRTC). Arlington, Virginia 2020 [Accepted for oral presentation but conference cancelled due to COVID-19 pandemic]

Patel S, Khan AM, Sivaswamy A, Ferreira-Legere LE, Austin P, Lee DS, Ko DT, Tu JV, Udell JA. Derivation of a model that accurately predicts cardiovascular from non-cardiovascular cause of death using administrative health data sources. Canadian Cardiovascular Congress. Montreal, Canada. 2019 [Oral]

Jin YP, Liu SY, Buys YM, Khan AM, Trope GE. Visually disabled in the Ontario Disability Support Program: Trends in socio-demographics, financial support and use of vision care benefits from 2003 to 2013. Faculty Research Day in the Department of Ophthalmology and Vision Sciences at the University of Toronto. Toronto, Canada. 2018 [Oral]

Udell J, Khan AM, Jia J, Chu A, Udell J, Farkouh M, Tu JV. Use of the CANHEART 'big data' registry to conduct a large randomized registry clinical trial to improve lipid management in Ontario, Canada. International Population Data Linkage Network (IPDLN) conference [Oral presentation]. Banff, Alberta, Canada 2018

Sivaswamy A, Khan AM, Tu K, Azizi P, Ko D, Tu JV. Use of linked electronic health records to evaluate cardiovascular risk prediction models in Ontario, Canada. International Population Data Linkage Network (IPDLN) conference. Banff, Canada. 2018 [Oral]

Chu A, Hennessy D, Johnston S, Udell J, Ko D, Khan AM, Jia J, Tu JV. Linking big data for cardiovascular health surveillance – opportunities and challenges using the CANHEART cohort. International Population Data Linkage Network (IPDLN) conference. Banff, Canada. 2018 [Oral]

Akiyamen L, Jing J, Chu A, Khan AM, Ko D, Tu JV. Clinical outcomes in patients with definite/probable familial hypercholesterolemia (FH) or severe hypercholesterolemia: the CANHEART FH study. International Symposium on Atherosclerosis (ISA). Toronto, Canada. 2018 [Oral]

Ko DT, Khan AM, Kotrri G, Koh M, Chu A, Austin PC, Wijeyesundera HC, Tu JV. Applying the FOURIER trial amongst real-world cardiovascular disease patients: The cardiovascular health in ambulatory care research team (CANHEART) PCSK9 study. American Heart Association Scientific Sessions. Anaheim, California. 2017 [Oral]

Jin YP, Liu SY, Buys YM, Khan AM and Trope GE. Visually Disabled in the Ontario Disability Support Program: Trends in Financial Support, Socio-demographics and Use of Vision Care Benefits From 2003 to 2013. OPS Knowledge Mobilization Speaker Series. Toronto, Canada. 2017 [Oral]

Jin YP, Wedge R, Khan AM, Buys YM, El-Defrawy S, Chen Q, Trope GE. Eye health care delivery in Prince Edward Island: Can a public funding policy alter unequal diagnosis by geographic residence? Faculty Research Day in the Department of Ophthalmology and Vision Sciences at the University of Toronto. Toronto, Canada. 2015 [Oral]

Symposiums:

Clarke P and Khan AM. (2020 November). Parks and Safety: How Cognitive Decline May Impact Access and Perception. In J. Finlay (Chair), Perception Versus Reality: Subjective and Objective Neighborhood Characteristics and Cognitive Function in REGARDS. Symposium conducted at the meeting of the Gerontology Society of America, Online due to COVID-19 pandemic

Khan AM, Finlay J, Melendez R, Sol K, Judd S, Wadley V, Clarke P, Gronlund C. (2019 November). Too hot or too cold? Exposure to extreme temperatures and cognitive function in older adults. In P. Clarke (Chair), Can Neighborhood and Local Environments Modify Cognitive Decline? Findings from the REGARDS Study. Symposium conducted at the meeting of the Gerontology Society of America, Austin, Texas

Finlay J, Khan AM, Gronlund C, Melendez R, Judd S, Wadley V, Clarke P. (2019 November). Winter woes? Impact of snow, sleet, and rain on age-related cognitive decline. In A. Rosso (Chair), At the Interface of the Brain and Environment: Determinants of Cognitive Function and Mobility. Symposium conducted at the meeting of the Gerontology Society of America, Austin, Texas

Posters:

Khan AM, Bynum J, Mahmoudi E, Clarke PJ. Individual- and Neighborhood-level Characteristics Associated with Continuity of Care Amongst Adults with Cerebral Palsy or Spina Bifida. AcademyHealth Annual Meeting. Virtual. June 2021 [Poster].

August E, Smith YR, Wmichael TE, Khan AM, Hannosh O, Hall J. An Innovative Partnership Supporting Research Capacity and Promoting Indigenous Researchers in Africa. Consortium of Universities for Global Health (CUGH) Conference. Virtual. March 2021 [Poster]

Khan AM, Finlay J, Clarke P, Sol K, Melendez R, Judd S, Gronlund C. Acute Exposure to Extreme Temperature and Cognitive Function in Older Adults. University of Michigan School of Public Health Epidemiology Prospective Student Day [Poster]. Ann Arbor, Michigan 2020

Khan AM, Urquia M, Kornas K, Henry D, Cheng SY, Bornbaum C, Rosella L. Socioeconomic gradients in all-cause, premature and avoidable mortality among immigrants and long-term residents using population-based linked death records in Ontario, Canada. Dalla Lana School of Public Health Research and Practice Day [Poster]. Toronto, Canada 2016

Rashid S, Januwalla A, Moore J, Rup J, Khan AM, Straus SE, Tu JV, On Behalf of the CANHEART SPOR Research Team. The Cardiovascular Health in Ambulatory Care Research Team (CANHEART) Initiative: Using Implementation science to improve dyslipidemia management in Ontario. International Symposium on Atherosclerosis (ISA). Toronto, Canada. 2018 [Poster]

Jin YP, Liu SY, Buys YM, Khan AM, Trope GE. Visually disabled in the Ontario Disability Support Program: Trends in socio-demographics, financial support and use of vision care benefits from 2003 to 2013. Association for Research in Vision and Ophthalmology (ARVO). Honolulu, Hawaii. 2018 [Poster]

Jeyakumar G, Tu JV, Austin PC, Hall R, Chu A, Khan AM, Jin AY, Martin C, Manuel D, Silver FL, Swartz R, Kapral MK. Ambulatory Care for secondary prevention of stroke in rural versus urban areas in Ontario, Canada. International Stroke Conference. Los Angeles, California. 2018 [Poster]

Liu S, Trope G, Buys Y, Khan AM, Jin YP. Visually disabled in the Ontario Disability Support Program: Trends in financial support and socio-demographics from 2003 to 2013. Canadian Research Data Center Network (CRDCN) conference. Montreal, Canada. 2017 [Poster]

Oakes G, Soleas I, Woodward G, Ko D, Eberg M, Tu JV, Khan AM, Wang X, Gorzkiewicz V, Couris C, Medved W, Leeb K. Comparison of Outcomes Following Coronary Artery Bypass Graft Surgery and Percutaneous Coronary Intervention in Ontario as Reported by the Cardiac Care Network of Ontario and the Canadian Institute for Health Information. Canadian Cardiovascular Society conference. British Columbia, Canada. 2017 [Poster]

Jeyakumar G, Tu JV, Austin PC, Hall R, Chu A, Khan AM, Jin AY, Martin C, Manuel D, Silver FL, Swartz R, Kapral MK. Rural-urban differences in stroke risk factors, incidence, and mortality in Ontario, Canada. International Stroke Conference. Houston, USA. 2017 [Poster]

Khan AM, Urquia M, Kornas K, Henry D, Cheng SY, Bornbaum C, Rosella L. Socioeconomic gradients in all-cause, premature and avoidable mortality among immigrants and long-term residents using population-based linked death records in Ontario, Canada. Dalla Lana School of Public Health Research and Practice Day. Toronto, Canada. 2016 [Poster]

Khan AM, Wedge R, Trope GE, Buys YM, El-Defrawy S, Chen Q, Jin YP. Examining Prince Edward Island's Vision Care Funding Policy: What Do Geographic Disparities in Eye Care Utilization and Eye Disease Prevalence Tell Us? Canadian Association for Health Services and Policy Research (CAHSPR) [Poster]. Toronto, Ontario, Canada 2016

Jin YP, Wedge R, Khan AM, Buys YM, El-Defrawy S, Chen Q, Trope GE. Eye health care delivery on Prince Edward Island: Can public funding policy alter unequal diagnosis by geographic residence?

Association for Research in Vision and Ophthalmology (ARVO). Seattle, WA. 2016 [Poster]

Jin YP, Wedge R, Khan AM, Buys YM, El-Defrawy S, Chen Q, Trope GE. Eye health care delivery on Prince Edward Island: Can public funding policy alter unequal diagnosis by geographic residence? COS Annual Meeting. Ottawa, Canada. 2016 [Poster]

Khan AM, Paterson M, Udovyk O, Saha S, Bhuti Lama T, Tremblay-Laroche D. HIV Risk in the Winnipeg Immigrant Community: A Public Health Intervention. Introduction to Public Health Sciences course, Dalla Lana School of Public Health, University of Toronto. Toronto, Canada. 2014 [Poster]

Khan AM. The Metabolic Smoke Screen: Investigating the Effects of THC on Gene Expression. Human Biology Department (University of Toronto) Research Day. Toronto, Canada. 2013 [Poster]

Invited Presentations:

Khan AM. Successful Aging into the 21st Century: Features of the Neighborhood Environment as Facilitators or Barriers for Individuals Aging with Disability. Center for Social Epidemiology and Population Health (CSEPH) Seminar. Virtual September 2020

Khan AM. Successful Aging into the 21st Century: Features of the Neighborhood Environment as Facilitators or Barriers for Individuals Aging with Disability. IDEAL RRTC Trainee Meeting. Virtual August 2020

Khan AM. Neighborhood Environments and Cardiometabolic Morbidity in Adults Aging with Physical Disability. IDEAL RRTC Executive Committee Meeting. Virtual 2020

Khan AM. Using Health Claims Data to Study Health Outcomes Among Adults Aging with Physical Disability. IDEAL RRTC Trainee Meeting. Virtual 2020

Khan AM. Features of the Built and Social Environment as Facilitators or Barriers for Individuals Aging with Disability. Center for Social Epidemiology and Population Health (CSEPH), University of Michigan School of Public Health (Epidemiology) Seminar. Ann Arbor, Michigan, USA 2020

Khan AM. Operationalizing “Aging with Disability”: Challenges and Considerations in Quantitative Studies. IDEAL RRTC Trainee Meeting. Ann Arbor, Michigan, USA 2020

Khan AM, Finlay J (co-presenters). Weather Woes? Exposure to Extreme Temperatures, Precipitation, and Cognitive Function in Older Adults: Analyses from the REGARDS Cohort. Reasons for Geographic and Racial Differences in Stroke (REGARDS) Cognitive Working Group. Online presentation 2019

Khan AM, Udell J, Ferreira-Legere L (co-presenters). Using Big Data to Measure and Improve Cardiovascular Health: The CANHEART Initiative. CANHEART SPOR Visiting Researcher Series. Institute for Clinical Evaluative Sciences: Toronto, Ontario, Canada 2018

Khan AM, Kim C, Sparrow R, Tu JV. Lipid Management in Ontario: Predictors of Lipid Screening and Statin Use. ICES Fall Forum. Institute for Clinical Evaluative Sciences: Toronto, Ontario, Canada 2017

Additional Education & Training

Human Subjects Research, Collaborative Institutional Training Initiative (CITI)

Community Engagement: Collaborating for Change, MichiganX Online Learning Initiative

Responsible Conduct of Research and Scholarship (RCRS) Training

Program for Education and Evaluation in Responsible Research and Scholarship (PEERS)

SAS Programming 2: Data Manipulation, SAS Institute

Partners in Research: Patient Oriented Research, Knowledge Translation Program, St. Michael's Hospital
(Toronto, Canada)

Planning for Implementation and Sustainability, Knowledge Translation Program, St. Michael's Hospital
(Toronto, Canada)

Peer Reviews

Journals of Gerontology: Psychological Sciences

Journals of Gerontology: Social Sciences

Environmental Research