

Rowan Iskandar, PhD, MA

Assistant Professor of Health Services, Policy, and Practice
Center for Evidence Synthesis in Health
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POSITIONS

Assistant Professor of Health Services, Policy, and Practices October 2016 – present
Brown University School of Public Health
Providence, RI

Head of Biomathematics research program July 2013 – February 2014
Institute of Public Health, UMIT, Hall in Tirol, Austria
Task: Functioned as the PI of a systematic literature review of PSA screening models, developed analytic and calibration-based methods for deriving hazard rates of a combined k-number of Markov states, functioned as an expert in mathematical modeling and advised fellow modelers in calibrating Oncotyrol prostate cancer model, co-advised master student on a shared-decision making topic

Research Assistant for Professor Karen Kuntz Sept 2007 – May 2011
Department of Health Policy and Management, University of Minnesota, Minneapolis, MN, USA
Task: Conducted systematic literature review, developed a discrete-time cohort model, performed model simulations to estimate the effect of parity in adjuvant treatments on reducing racial disparity in cancer outcomes

Senior Analyst June 2004 – May 2007
i3 Innovus, an Ingenix Company, Medford, MA, USA
Task: Functioned as the primary programmer in a project developing and applying novel mathematical methods for calibrating HPV transmission models, mentored junior researchers in decision-analytic modeling and programming, prepared technical analysis documents and manuscripts for publication

EDUCATION

Ph.D. in Health Service Research, Policy, and Administration September 2016
University of Minnesota, Minneapolis, MN, USA
Concentration: Health Decision Science
Thesis: “A theoretical natural history model of breast tumor metastasis in the context of tumor dormancy and its potential applications”
Advisor: Karen M. Kuntz

M.S. in Mathematics September 2009-
University of Minnesota, Minneapolis, MN, USA
Thesis: “Polynomial chaos expansion meta-modeling in decision models”
Advisor: Yoichiro Mori

B.A., M.A. in Economics

January 2004

Boston University, Boston, MA, USA

Thesis: "A discrete choice model for outpatient visit in Indonesia: A framework for welfare analysis"

Advisor: Randall Ellis

TEACHING EXPERIENCE

PHP2465A Introduction to Health Decision Analysis, Brown University Fall 2018

Co-Instructor

Task: Design and co-teach the course with Professor Thomas A. Trikalinos

Population Model for Cancer Prevention - 26864 - INDP 0005 - S01, Brown University Spring 2018

Instructor

Task: Design and teach the course

PHP2465A Introduction to Health Decision Analysis, Brown University Fall 2017

Co-Instructor

Task: Design and co-teach the course with Professor Thomas A. Trikalinos

Graduate Independent Study and Thesis Research-PHP 2980), Brown University Fall 2017

Co-Instructor for Decision Making under Ambiguity

Task: Design and co-teach the seminar course with Professor Thomas A. Trikalinos

Graduate Independent Study and Thesis Research-PHP 2980), Brown University Spring 2017

Co-Instructor for Health Decision Science: Principles and Methods

Task: Design and co-teach the seminar course with Professor Thomas A. Trikalinos

Teaching Assistant for Winter School in Clinical Epidemiology, UMIT February 2014

Task: Responsible for assisting Professor Albert Hofman and Professor Uwe Siebert with lectures and class exercises

Instructor of Mathematics Camp for Ph.D. students in Health Policy, University of Minnesota Summer 2011

Task: Designed and taught a short course that teaches basic mathematical tools for incoming Ph.D. students

Teaching Assistant for Decision Analysis for Healthcare course, University of Minnesota Fall 2010

Task: Assisted Professor Karen Kuntz with weekly lectures and homework assignments, conducted office hours

Guest Lecturer for Decision Analysis for Healthcare course, University of Minnesota Fall 2008

Task: Gave a lecture on discounting for economics evaluation

STUDENTS /MENTORING

Mauricio Lopez-Mendez, PhD student, Brown University September 2018 – Present

Task: PhD Co-Adviser

Audrey Tran, Brown University May 2017 - present

Task: Faculty mentor, supervise independent study in Spring 2018 and Summer 2018

Alexandra Ellis, PhD candidate, Brown University December 2016 – May 2018

Task: Thesis committee member, co-author on abstract “An Active Learning Algorithm for Efficiently Developing Meta-Models, with an Application in Prostate Cancer Screening.” (won Lee B. Lusted student award in theoretical development at 39th SMDM North American meeting)

Shaun Forbes, PhD student, Brown University

December 2016 - present

Task: Thesis committee member

Mengyang Di, MD, PhD, Medical Resident, Brown University

December 2016 – present

Supervised Research topics: Developing a microsimulation model for evaluating the benefits and harms of contralateral prophylactic mastectomy among African American patients with sporadic early stage breast cancer (Lee B. Lusted student award finalist at 39th SMDM North American meeting)

Christina Kurzthaler, MSc., UMIT

July 2013 - May 2014

Supervised Research topics: Methods for deriving correct transition rates when combining Markov states (won Lee B. Lusted student award at 15th SMDM European meeting and top-ranked abstract at 36^t SMDM North American meeting), Mechanistic and epidemiologic model of DCIS

PUBLICATIONS AND MANUSCRIPTS

Ellis, A. G., **Iskandar, R.**, Schmid, C. H., Wong, J. B., & Trikalinos, T. A. (2018). Active learning for efficiently training emulators of computationally expensive mathematical models. arXiv preprint arXiv:1812.07673 (submitted to *Stats in Medicine*)

Iskandar, R. (2018). A theoretical foundation for state-transition cohort models in health decision analysis. *PLoS one*, 13(12), e0205543.

Mengyang D, Seo M, **Iskandar R.** A Decision Model for Predicting Survival Outcomes Following Contralateral Prophylactic Mastectomy Among African American Women with Sporadic Early Stage Breast Cancer (to be submitted to *Journal of Clinical Oncology*)

Iskandar R, Kunst N, Trikalinos TA. Copula modeling in public health (in preparation).

Iskandar, R. A Theoretical Model Of Breast Tumor Metastases In The Context Of Tumor Dormancy (PhD Dissertation)

Iskandar R, Kim N, Wang SY, Kuntz KM. Modeling the effect of parity in the receipt of adjuvant treatment on the racial disparity in survival between black and white early stage breast cancer patients. (in preparation).

D Gogov, N Mühlberger, **R Iskandar**, Y Alimohammadi, U Siebert; Methodological features of prostate cancer screening models – A review of simulation models: Dragan Gogov, *European Journal of Public Health*, Volume 26, Issue suppl_1, 1 November 2016, ckw174.141, <https://doi.org/10.1093/eurpub/ckw174.141>

Mühlberger, N., Kurzthaler, C., **Iskandar, R.**, Krahn, M. D., Bremner, K. E., Oberaigner, W., ... & Siebert, U. (2015). The ONCOTYROL prostate cancer outcome and policy model: effect of prevalence assumptions on the benefit-harm balance of screening. *Medical Decision Making*, 35(6), 758-772.

Taylor DCA, Pawar V, Kruzikas D, Gilmore KE, Pandya A, **Iskandar R**, Weinstein MC. Calibrating longitudinal models to cross-sectional data: The effect of temporal changes in health practices. *Value in Health* 2011;14(5):700-704

Taylor DCA, Pawar V, Kruzikas D, Gilmore KE, Pandya A, **Iskandar R**, Weinstein MC. Methods of model calibration: Observation from a mathematical model of cervical cancer. *Pharmacoeconomics* 2010;28(11):995-1000

Johnston, J. A., Meadows, E. S., Mershon, J. L., **Iskandar, R.**, DeLong, K., Taylor, D. C., ... & Weinstein, M. C. (2007, April). Cost-effectiveness of breast cancer risk assessment in primary care. In *JOURNAL OF GENERAL INTERNAL MEDICINE* (Vol. 22, pp. 37-38). 233 SPRING STREET, NEW YORK, NY 10013 USA: SPRINGER.

PROGRAMMING SKILLS

C++, Python, R, Julia, MATLAB, Visual Basic, SAS

PRESENTATIONS

Iskandar R. On the Equivalence of a Cohort Model and the Mean Equation of the Associated Master Equation. 17th Biennial European Meeting of the Society for Medical Decision Making, Leiden, Netherland, June 10-12, 2018

Iskandar R, Alarid-Escudero F, Trikalinos TA. On Simulating Multivariate Distributions with Arbitrary Marginal Distributions and Dependence Structures. 39th Annual North American Meeting of the Society for Medical Decision Making, Pittsburgh, PA, October 22-25, 2017

Trikalinos TA, Forbes SA, Willis B, **Iskandar R.** On a More Honest Propagation of Uncertainty in Stochastic Mathematical Models. Top-ranked presentation. 39th Annual North American Meeting of the Society for Medical Decision Making, Pittsburgh, PA, October 22-25, 2017

Mengyang D, **Iskandar R.** A Decision Model for Predicting Survival Outcomes Following Contralateral Prophylactic Mastectomy Among African American Women with Sporadic Early Stage Breast Cancer. Lee-Lusted student award finalist. 39th Annual North American Meeting of the Society for Medical Decision Making, Pittsburgh, PA, October 22-25, 2017

Ellis AG, **Iskandar R**, Trikalinos TA. An Active Learning Algorithm for Efficiently Developing Meta-Models, with an Application in Prostate Cancer Screening. Lee-Lusted student award winner in theoretical development category. 39th Annual North American Meeting of the Society for Medical Decision Making, Pittsburgh, PA, October 22-25, 2017

Forbes SA, **Iskandar R**, Trikalinos TA. Bounding the Implications of Partial Identifiability in Decision Analysis. Lee-Lusted student award finalist. 39th Annual North American Meeting of the Society for Medical Decision Making, Pittsburgh, PA, October 22-25, 2017

Steele D, **Iskandar R.** Nonoperative Treatment of Pediatric Appendicitis: A Cost Effectiveness Analysis. 39th Annual North American Meeting of the Society for Medical Decision Making, Pittsburgh, PA, October 22-25, 2017

Kurzthaler C, **Iskandar R**, Siebert U. Combining Markov states: A comparison of analytical and heuristic methods for deriving the hazard rates of a collapsed Markov state (Top-ranked abstract). 36th Annual North American Meeting of the Society for Medical Decision Making, Miami, FL, October 18-22, 2014

Kurzthaler C, **Iskandar R**, Siebert U. Combining Markov states: A comparison of analytical and heuristic methods for deriving the hazard rates of a collapsed Markov state. 15th European Meeting of the Society for Medical Decision Making, Antwerp, Belgium, June 8-10, 2014

Iskandar R, Tuttle TM, Kuntz KM. Using a simulation model to estimate the relative risk of contralateral breast cancer risk versus unilateral breast cancer risk in the general population. 31st Annual Meeting of the Society for Medical Decision Making, Los Angeles, CA, USA, October 18-21, 2009

Sanders G, Taylor DCA, Pandya A, **Iskandar R**, Krunkzikas DT. Modeling the impact of vaccination against cervical cancer until steady state: Cost-effectiveness and reduction in outcomes. 4th Annual Meeting of Health Technology Assessment International, Barcelona, Spain, June 2007

Meadows E, Mershon JL, Johnston J, **Iskandar R**, DeLong K, Taylor D, Kerlikowske K, Weinstein M. Impact of breast cancer risk assessment in primary care: modeling clinical outcomes and effectiveness. Journal of Clinical Oncology, 2007 ASCO Annual Meeting Chicago, IL, USA, Proceedings Part I. Vol. 25, No. 18S (June 20, Supplement) 2007:1516

Taylor DC, **Iskandar R**, DeLong K, Meadows E, Johnston JA, Mershon JL, Kerlikowske K, Weinstein MC. Cost-effectiveness of breast cancer risk assessment in primary care. International Society for Pharmacoeconomics and Outcomes Research, 12th Annual International Meeting, Presentation PCN10, Arlington, VA, USA, May 2007

Juday TR, Kruzikas DR, Taylor DCA, Pandya A, **Iskandar R**, Gilmore KE, Weinstein MC. Natural history model estimating the clinical benefits associated with HPV vaccination and cross-protection among US females 12-26 years of age. IDSA 44th Annual Meeting, Toronto, Canada, October 12-15, 2006

Juday TR, Pandya A, **Iskandar R**, Kruzikas DT, Thompson D, Weinstein MC. Cost-effectiveness of vaccination strategies to prevent human papillomavirus infection in the United States. AMCP's 2005 Educational Conference Chicago, IL, USA, October 4-7, 2006

Juday TR, Kruzikas DT, Taylor DCA, Pandya A, **Iskandar R**, Thompson D. Clinical benefits associated with vaccination against human papillomavirus: the contribution of cross-protection. Control#3116, Interscience Conference on Antimicrobial Agents and Chemotherapy, San Francisco, CA, USA, September 2006

Rifkin RM, Hussein M, **Iskandar R**, O'Sullivan A, Thompson D, Forlenza J, Fruchtman S, Wildgust M, McGarry L. Economic evaluation of DVD versus VAd in the treatment of multiple myeloma: Results from a phase III multicenter randomized clinical trial. Journal of Clinical Oncology, 2006 ASCO Annual Meeting, Atlanta, GA, USA Proceeding Part I, Vol. 24, No. 18S (June 20, Supplement), 2006:6050

McGarry LJ, **Iskandar R**, Calimeris L, Dai W2, Wu JH, Weinstein MC. Risk-benefit assessment of telithromycin for the treatment of CAP using quality-adjusted days (QAD) lost. Value in Health, 8(3):329, Washington DC, USA, 2005

Sanders G, Taylor D, Pandya A, **Iskandar R**, Kruzikas D. Modeling the impact of vaccination against cervical cancer until steady state: Cost-reduction in outcomes. S06-06. Health Technology Assessment IV Annual Meeting, Barcelona, Spain, June 2007

Johnston JA, Meadows E, Mershon JL, Taylor DC, **Iskandar R**, Delong K, Kerlikowske K, Weinstein MC. Cost-effectiveness of breast cancer risk assessment in primary care. Society of General Internal Medicine (SGIM) 30th Annual Meeting, Toronto, Ontario, Canada, April 2007

Taylor DCA, Kruzikas DT, Pandya A, **Iskandar R**, Gilmore KE, Weinstein MC. Methods of model calibration: a comparative approach. International Society for Pharmacoeconomics and Outcomes Research (ISPOR) 12th Annual International Meeting, Arlington, VA, USA, May 2007

McGarry LJ, **Iskandar R**, Searl B, Asche C, Thompson D, Weinstein MC. Cost-effectiveness of telithromycin in the treatment community acquired pneumonia. International Society for Pharmacoeconomics and Outcomes Research Annual International Meeting, Philadelphia, PA, USA, May 20-24, 2006

GRANTS RECEIVED

Social Science Research Institute Seed Grant, Brown University (PI) 2018-2019

A decision-theoretic framework for aiding decision-making in the context of incomplete information on subgroup estimates

School of Public Health Seed Grant, Brown University (co-PI) 2019-2020

Modeling the Effect of First-line Nondrug Interventions that Manage Dementia Related Behavioral Symptoms

School of Public Health Seed Grant, Brown University (co-PI) 2019-2020

Estimating the Optimal Positivity Criterion for Lung Cancer Screening with Low-Dose Computed Tomography: A Decision Modeling Approach