September 2019

Marlena S. (Norwood) Bannick

Contact Information

810 Dexter Ave N #533
Seattle, WA 98109

Cell: (206) 498-0046
E-mail: mnorwood@uw.edu
GitHub: https://github.com/mbannick

Education

University of Washington, Seattle, Washington USA
School of Public Health

PhD Student in Biostatistics **Sept 2019 - present**

MS Candidate in Biostatistics **Sept 2016 - Aug 2019**

- Advisor: Ruth Etzioni, PhD
- Thesis Title: *Estimating time to intermediate endpoints using population-level survival data and deconvolution methods, with application to cancer progression and recurrence.*
- Passed First Year Statistical Theory Exam at the PhD level

B.S. in Public Health, *magna cum laude*, *Phi Beta Kappa* **Sept 2012 - Jun 2016**

- College Honors
- Math Minor
- Direct Exchange: University College London, Global Health and Anthropology

Research and Professional Experience

Methods and Engineering Researcher **Sept 2019 - present**
Mathematical Sciences and Computational Algorithms
Institute for Health Metrics and Evaluation (IHME)
University of Washington
Supervisor: Aleksandr Aravkin, PhD

Post-Bachelor Fellow **Sept 2016 - Aug 2019**
Institute for Health Metrics and Evaluation (IHME)
University of Washington

Central Computation for the Global Burden of Disease Study
Supervisors: Stephen Lim, PhD; Kyle Foreman, PhD

- Improving institutional statistical modeling software used within IHME to make cause of death estimates for the Global Burden of Disease Study 2017 and 2019
- Executing central machinery as a key part of the Global Burden of Disease estimation pipeline

Natural Language Processing Applications
Supervisor: Stephen Lim, PhD

- Developing a tool to screen the results of PubMed queries for relevance to research teams at IHME using natural language processing and deep learning methods

Disease Estimation for the Global Burden of Disease Study
Supervisor: Theo Vos, MD, PhD

- Developed estimates of non-fatal injury burden for the Global Burden of Disease Study 2016
- Conceptualized and implemented strategies to estimate sexual violence indicators for the Sustainable Development Goals

Research Assistant **Oct 2015 - Aug 2016**
Cancer Epidemiology Research Cooperative
Fred Hutchinson Cancer Research Center
Supervisor: Beth Mueller, DrPH

- Conducted statistical analyses for a cohort study of pregnancy outcomes in women with multiple sclerosis, and a case-control study of congenital malformations and childhood cancer
- Researched the capacity of each state in the U.S. to link birth certificates to state cancer registries for a National Cancer Institute-funded study

Research Assistant **Jun 2015 - Sept 2015**
Department of Biostatistics
University of Washington
Supervisor: James Hughes, PhD

- Developed a statistical method to estimate under-reporting of sensitive, self-reported behaviors in a study population with biomarkers
- Authored a publication on the novel method that was ultimately presented by Dr. Hughes at the CDC Expert Consultation on Advancing Methods for Biobehavioral Surveys in 2018

Research Assistant **Jun 2014 - Aug 2014**
HIV Prevention Trials Network
Fred Hutchinson Cancer Research Center
Supervisor: Deborah Donnell, PhD

- Developed an R program for an HIV Prevention Trials Network study to inform the categorization of biological specimens in a way that optimized sensitivity and specificity

Student Research Assistant **Apr 2014 - Aug 2014**
Center for Clinical and Epidemiological Research
University of Washington

- Supported the maintenance of a large health research registry
- Performed targeted literature reviews to inform new epidemiological twin studies

Student Research Assistant **Sept 2013 - Aug 2014**
Division of Public Behavioral Health and Justice Policy
University of Washington
Supervisor: Suzanne Kerns, PhD

- Analyzed qualitative survey data using ATLAS.ti to determine barriers to implementing evidence-based parenting interventions in Washington State
- Designed online data collection platforms for intervention monitoring and evaluation
- Assisted in writing monitoring and evaluation progress reports for the Washington State Division of Behavioral Health and Recovery

Honors and Awards

Senior MS in Biostatistics Award, Department of Biostatistics, University of Washington, 2019

Graduate School Conference Travel Award, University of Washington, 2019

Outstanding Student Award, School of Public Health, University of Washington, 2016

Husky 100 Award, University of Washington, 2016

Phi Beta Kappa, Washington Alpha Chapter, 2015

Upcoming Presentations

Bannick, M.S. October 2019. Estimating time to intermediate endpoints using population-level survival data and deconvolution methods, with application to cancer progression and recurrence. Women in Statistics and Data Science Conference, Bellevue, Washington. (Oral and Poster).

Presentations

Bannick, M.S. July 2019. Estimating time to intermediate endpoints using population-level survival data and deconvolution methods, with application to cancer progression and recurrence. Joint Statistical Meetings, Denver, CO. (Poster).

Bannick, M.S. May 2019. Behind the Scenes: Building Tools to Visualize Intermediate Results in Complex Data Science Pipelines. Invited Presentation at the Symposium on Data Science & Statistics, Bellevue, Washington.

Bannick, M.S. May 2019. Cause of Death Modeling. Global Burden of Disease Technical Workshop, Eretria, Greece.

Misganaw, A., **Bannick, M.S.**, Srinivasan, V. Sept 2018. Ethiopia Disease Burden within the Global Burden of Disease Study 2016. Ethiopian Public Health Institute, Addis Ababa, Ethiopia.

Norwood, M.S. May 2016. Childhood cancer in relation to the presence of congenital malformations in Washington State. School of Public Health Undergraduate Symposium, University of Washington, Seattle. (Poster).

Norwood, M.S. May 2015. The Validity of Self-Reported Behaviors: Methods for Estimating Underreporting of Risky Behaviors. School of Public Health Undergraduate Symposium, University of Washington, Seattle. (Poster).

Norwood, M.S. May 2014. A Public Health Approach to Parenting Interventions: Implementation Issues. School of Public Health Undergraduate Symposium, University of Washington, Seattle. (Poster).

Manuscripts under Review

Bannick, M.S., McGaughey, M., Flaxman, A.D. 2019. Ensemble modeling in descriptive epidemiology: burden of disease estimation. Submitted to *International Journal of Epidemiology*.

Linong, W. et al, including **Bannick, M.S.** 2019. The burden of injury in China, 1990-2017: Findings from the Global Burden of Disease Study 2017. Submitted to *The Lancet Public Health*.

Publications

Feigin, V. L. et al, including **M.S. Bannick** 2019. Global, regional, and national burden of neurological disorders in 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. *The Lancet Neurology* 18(5):459-480.

James, S. L., Theadom A., Ellenbogen, R. G., **Bannick, M.S.**, Montjoy-Venning W. C., Lucchesi, L.R., et al. 2019. The incidence, prevalence, and years lived with disability from traumatic brain injury and spinal cord injury from 1990 to 2016: a systematic analysis for the Global Burden of Disease Study 2016. *The Lancet Neurology* 18(1):56-87.

Roth, G. A. et al, including **M.S. Bannick**. 2018. Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980-2017: a systematic analysis for the Global Burden of Disease Study 2017, *The Lancet* 392(10159):1736-1788.

Fullman, N. et al, including **M.S. Bannick**. 2017. Measuring progress and projecting attainment on the basis of past trends of the health-related Sustainable Development Goals in 188 countries: an analysis from the Global Burden of Disease Study 2016, *The Lancet* 390(10100):1423-1459.

Hay, S. et al, including **M.S. Bannick**. 2017. Global, regional, and national disability-adjusted life-years for 332 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016, *The Lancet* 390(10100):1260-1344.

Vos, T. et al, including **M.S. Bannick**. 2017. Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016, *The Lancet* 390(10100):1211-1259.

Norwood, M.S., P.J. Lupo, E.J. Chow, M.E. Scheurer, S.E. Plon, H.E. Danysh, L.E. Spector, S.E. Carozza, and B.A. Mueller. 2017. Childhood cancer risk in those with chromosomal and non-chromosomal congenital anomalies in Washington State: 1984-2013, *PLoS One*, 12(6):e0179006.

Norwood, M.S., J.P. Hughes, and K.R. Amico. 2016. The validity of self-reported behaviors: methods for estimating underreporting of risk behaviors, *Annals of Epidemiology* 26(9):612-618e2.

Other Publications

Norwood, M.S. 2016. The Power of Numbers. *Imagine Magazine: Public Health, The Johns Hopkins Center for Talented Youth* 23(3):18.

Teaching

Bannick, M.S. Aug 2019. "Cause of Death Ensemble Model (CODEm)." Global Burden of Disease Course (Lecture), Department of Global Health, University of Washington, Seattle.

Ong, L., **Bannick, M.S.**, Vos, T. May 2019. "Data to DALYs: Case Study on Diabetes." Global Burden of Disease Technical Workshop (Short Course), Eretria, Greece.

Bannick, M.S. Aug 2018. "Cause of Death Ensemble Model (CODEm)." Global Burden of Disease Course (Lecture), Department of Global Health, University of Washington, Seattle.

Languages and Software

Proficiency: Python, R, SQL, Stata, LaTeX
Experience: C++ (through `Rcpp`)

Additional Education

Stochastic Epidemic Models with Inference, Jul 2015
UW Biostatistics Summer Institutes, Seattle, WA, USA

Spatial Statistics, Jul 2015
UW Biostatistics Summer Institutes, Seattle, WA USA

Writing in the Sciences, *with distinction*, Nov 2015
Stanford Online, Lagunita

Academic and Professional Affiliations

American Statistical Association, 2019
Washington State Public Health Association, 2016
IDEAS Affinity Group, Fred Hutchinson Cancer Research Center, 2015