

Meredith Stevenson Duncan

Department of Biostatistics
University of Kentucky
Lexington, KY 40508
(859) 218-2097
meredith.duncan@uky.edu

109 Venice Park
Lexington, KY 40503
(270) 871-6556
meredith.day.stevenson@gmail.com

EDUCATION

PHD Epidemiology, **Vanderbilt University**, Nashville, TN 2020
MA Biostatistics, **Boston University**, Boston, MA 2013
BS Mathematics, **Murray State University**, Murray, KY 2011

RESEARCH EXPERIENCE

ASSISTANT PROFESSOR 2020-PRESENT
Department of Biostatistics University of Kentucky
Collaborate with faculty members on multidisciplinary research · grant preparation · course development

SENIOR STATISTICAL ANALYST 2019-2020
Division of Cardiovascular Medicine Vanderbilt University Medical Center
Served as lead statistician on grant-supported studies · communicated findings to collaborators · wrote manuscripts

DATABASE ADMINISTRATOR 2016-2019
Division of Cardiovascular Medicine Vanderbilt University Medical Center
Provided statistical support for NIH-funded studies · built databases · wrote manuscripts · aided in grant preparation

RESEARCH ASSOCIATE 2016
Framingham Heart Study Boston University
Performed statistical analyses · interpreted results · assisted in paper writing

RESEARCH ASSISTANT 2013-2015
Framingham Heart Study Boston University
Assessed cardiovascular risk factors · analyzed observational data · interpreted results · created tables and figures

RESEARCH ASSISTANT 2013-2015
Long Life Family Study Boston University School of Medicine
Performed statistical analyses to determine genetic and environmental factors that contribute to familial longevity

CONSULTANT 2014
Office of Institutional Research Boston University
Identified predictors of attrition after the first year of undergraduate education

RESEARCH ASSISTANT 2013
Department of Bioinformatics Boston University School of Medicine
Worked as part of a team to develop an adaptive Bayesian model for cancer modeling

RESEARCH ASSISTANT 2012
Department of Endocrinology Boston University School of Medicine
Performed statistical analyses and data cleaning for clinical trials

SUMMER INTERN
Institutional Review Board
Attended IRB meetings · served as primary reviewer on one study per month

2012
Boston University Medical Center

TEACHING EXPERIENCE

COURSE FACILITATOR 2014-2016
Boston University Metropolitan College
Quantitative Methods for Information Systems: A fast-paced online course which provides Computer Information Systems students with the mathematical fundamentals required for successful quantitative analysis of problems in the field of business computing.

CONTENT DEVELOPMENT ASSISTANT 2015
Boston University School of Public Health
Quantitative Methods for Public Health: An introductory graduate level course in epidemiology and biostatistics that teaches students to evaluate data and make evidence-based public health decisions.

TEACHING ASSISTANT 2014-2015
Boston University School of Public Health
Statistical Methods in Epidemiology: An intermediate graduate level course on data analysis techniques in epidemiologic studies. Course covers stratification and multivariable techniques for controlling confounding.
Introduction to Biostatistics: An introductory graduate level course that introduces statistical methods needed to interpret and critique public health literature and provide skills to conduct basic statistical analyses.

LAB INSTRUCTOR 2013-2015
Boston University Summer Institute for Training in Biostatistics
Survey in Biostatistical Methods: The lab portion of this six-week summer program introduces a selected group of undergraduate students to statistical computing in Statistical Analysis Software (SAS) and R. Teaching datasets from the Framingham Heart Study and the Jackson Heart Study are utilized.

INSTRUCTOR 2014
Boston University School of Public Health
Introduction to Statistical Computing: An introductory graduate level course that introduces SAS to analyze public health data.

GUEST LECTURER 2012
Boston University School of Medicine
Biostatistics with Computing: Gave lecture on power and sample size calculations.

AWARDS

1. NEW INVESTIGATOR SCHOLARSHIP 2020
Awarded by the Conference on Retroviruses and Opportunistic Infections (CROI) to new investigators in the fields of HIV science and medicine based on quality of abstract, application, and letter of recommendation.
2. PAUL DUDLEY WHITE INTERNATIONAL SCHOLAR - UNITED STATES 2018
Awarded by the American Heart Association at the 2018 Scientific Sessions. This award recognizes authors that contributed to the highest ranked accepted abstract from each country.
3. EARLY CAREER INVESTIGATOR POSTER AWARD - POPULATION SCIENCE 2018
Awarded by the American Heart Association at the 2018 Scientific Sessions to the highest ranked poster presentation by an early career investigator in the population science focus.

4. NIGMS INTERDISCIPLINARY TRAINING GRANT IN BIOSTATISTICS 2011-2013
 Received a two-year training grant which allowed me to focus on coursework and complete four rotations in each of: Ethical Conduct of Research, Clinical Trials, Statistical Genetics, and Bioinformatics.

PROGRAMMING LANGUAGES

- STATISTICAL ANALYSIS SOFTWARE (SAS)
- R
- STATA
- LINUX

PROFESSIONAL DEVELOPMENT

- Introduction to Causal Inference: Harvard T.H. Chan School of Public Health June 2-6, 2019
- Statistical Genetics Short Course: University of Colorado Medical Campus September 18-22, 2017
- Using Stata Effectively: Stata Corporation January 25-25, 2017
- Women's Health Initiative Data Training: Fred Hutchinson Cancer Research Center September 9, 2016
- Introduction to Medicare Data for Research: Research Data Assistance Center August 15-17, 2016
- Regression Modeling Strategies: Vanderbilt University May 24-27, 2016

PEER REVIEW ACTIVITIES

- *Journal of the American Heart Association*, Statistical Reviewer 2020-PRESENT
- *Metabolism*, Reviewer 2019-PRESENT
- *Annals of the American Thoracic Society*, Reviewer 2019
- *BMJ Open*, Reviewer 2019
- *Journal of Women's Health*, Reviewer 2019

VOLUNTEER WORK

- SEXUAL ASSAULT CENTER MEDICAL ACCOMPANIMENT Nashville, TN · 2018-2020
 Take regular on-call shifts · Provide survivors with emotional support and reference material on services provided by the Sexual Assault Center · Aid survivors in making decisions regarding after-hospital plans · Explain the process of the medical legal examination.
- BIOSTATISTICS STUDENT ASSOCIATION VICE PRESIDENT Boston, MA · 2013-2015
 Assisted the President in planning social and professional development activities · Organized a monthly lunch seminar for students and faculty to discuss statistical problems and ongoing projects.
- UPWARD BOUND Boston, MA · 2014
 Taught high school students about biostatistics through activities in statistics, clinical trials, genetics, and epidemiology.
- BIOSTATISTICS STUDENT ASSOCIATION TREASURER Boston, MA · 2012-2013
 Managed finances for the Boston University Biostatistics Student Association.

ACADEMIC AND PROFESSIONAL SOCIETIES

ACADEMIC MEMBERSHIPS

- Mu Gamma Rho Honor Society 2012-2015
- Boston University Student Chapter of the American Statistical Association 2014-2015
- Boston University Biostatistics Student Association 2011-2015

PROFESSIONAL MEMBERSHIPS

- American Heart Association 2018-PRESENT
- American Statistical Association 2013-2017

PRESENTATIONS

1. HIV as a Risk Factor for Incident Pulmonary Hypertension. 2020 Conference on Retroviruses and Opportunistic Infections. Boston, Massachusetts. (ePoster).
2. Confounding and Mediation of the Association between Psychological Attitudes and Type 2 Diabetes Risk among Postmenopausal Women. 2019 American Heart Association Scientific Sessions, Philadelphia, Pennsylvania. (Poster).
3. Lifetime Smoking and Risk of CVD and Lung Cancer. September 2019 Pizza and Pilots Meeting, University of Kentucky. (Oral).
4. Epidemiology and Biostatistics: Using Math to Improve Health without Touching Blood. 2019 Jesse D. Jones Lecture, Murray State University. (Oral).
5. Lifetime History of Smoking Cessation and the Risk of Cardiovascular Disease: Prospective Results from the Framingham Heart Study. 2018 American Heart Association Scientific Sessions, Chicago, Illinois. (Poster).
6. Trajectories of Blood Lipid Concentrations Over the Adult Life Course and Risk of Cardiovascular Disease and All-Cause Mortality. 2018 American Heart Association Scientific Sessions, Chicago, Illinois. (Poster).
7. An Introduction to Splines. February 2018 Veterans Aging Cohort Study Statistical Working Group Meeting, Webinar. (Oral).
8. Lifetime History of Smoking Cessation and the Risk of Lung Cancer: Prospective Results from the Framingham Heart Study Original and Offspring Cohorts. 2017 Society for Research on Nicotine and Tobacco Annual Meeting, Florence, Italy. (Poster).
9. Burden of Disease Variants in Participants of the Long Life Family Study. 2014 Annual Genome Science Institute Research Symposium, Boston University. (Poster).

PEER REVIEWED ARTICLES

WRITING IN PROGRESS

1. **Duncan, M. S.**, Greevy, R. A., Kundu, S., Lipworth, L., Aldrich, M. C., Tindle, H. A., Vasani, R. S., Coady, S., Lloyd-Jones, D. M., Freiberg, M. S. Impact of Including Comprehensive Smoking Data in ASCVD Risk Estimation.
2. **Duncan, M. S.**, Jaworski, J., Greevy, R. A., Lipworth, L., Vasani, R. S., Freiberg, M. S., Tindle, H. A., Aldrich, M. C. Interaction between Smoking Habits and Polygenic Risk Score and Impact on Lung Cancer Risk.
3. **Duncan, M. S.**, Alcorn, C. W., So-Armah, K., Justice, A. C., Crothers, K., Freiberg, M. S., Brittain, E. L. HIV as a Risk Factor for Incident Pulmonary Hypertension among US Veterans.

4. **Duncan, M. S.**, Freiberg, M. S., Liu, S., Kuller, L., Li, J., Shadyab, A. H., Hunter, J., Rosal, M. C., Luo, J., Tindle, H. A. Examining Confounders and Mediators of the Association between Psychological Attitudes and Diabetes Risk in Postmenopausal Women.
5. Bachmann, J. M., **Duncan, M. S.**, Greevy, R. A., Beatty, A. L., Thomas, R. J., Whooley, M. A., Freiberg, M. S. Geographic Variation in Cardiac Rehabilitation Access.

UNDER REVIEW

1. Zola, C. E.*, **Duncan, M. S.***, So-Armah, K., Crothers, K., Butt, A. A., Gibert, C., Kim, J., Lo Re, V., Tindle, H. A., Freiberg, M. S., Brittain, E. L. HIV- and HCV- Specific Markers and Echocardiographic Pulmonary Artery Systolic Pressure.
2. Freiberg, M. S., **Duncan, M. S.**, Alcorn, C., Chang, C., Kundu, S., Mumpuni, A., Epstein, E., Loch, S., Bedigian, A., Vittinghoff, E., So-Armah, K., Hsue, P., Justice, A. C., Tseng, Z. H. HIV Infection and the Risk of World Health Organization-defined Sudden Cardiac Death.

ACCEPTED

1. Walker, M. E., Xanthakis, V., Peterson, L., **Duncan, M. S.**, Lee, J., Ma, J., Bigornia, S., Moore, L. L., Quatromoni, P. A., Vasan, R. S., Jacques, P. F. Dietary Patterns, Ceramide Ratios, and Risk of All-Cause and Cause-Specific Mortality: The Framingham Offspring Study. *Journal of Nutrition*

PUBLISHED

1. Hu, J.-R., **Duncan, Meredith S**, Morgans, A. K., Brown, J. D., Meijers, W. C., Freiberg, M. S., Salem, J.-E., Beckman, J. A., & Moslehi, J. J. (2020). Cardiovascular effects of androgen deprivation therapy in prostate cancer. *Arterioscler Thromb Vasc Biol*, (pp. ATVBAHA119313046–ATVBAHA119313046)
2. Cresci, S., Zhang, R., Yang, Q., **Duncan, M. S.**, Xanthakis, V., Jiang, X., Vasan, R. S., Schaffer, J. E., & Peterson, L. R. (2020). Genetic Architecture of Circulating Very-Long-Chain (C24:0 and C22:0) Ceramide Concentrations
3. Kim, E. S., Tindle, H. A., Kubzansky, L. D., Liu, S., **Duncan, M. S.**, Manson, J. E., Springfield, S., Salmoirago-Blotcher, E., Shadyab, A. H., Liu, B., Grodstein, F., & DeVivo, I. (2019). The Relation of Optimism to Relative Telomere Length in Older Men and Women. *Psychosomatic Medicine*, (p. 1). URL <http://journals.lww.com/10.1097/PSY.0000000000000764>
4. McGrath, E. R., Himali, J. J., Xanthakis, V., **Duncan, M. S.**, Schaffer, J. E., Ory, D. S., Peterson, L. R., DeCarli, C. S., Pase, M. P., Satizabal, C. L., Vasan, R. S., Beiser, A. S., & Seshadri, S. (2019). Plasma Ceramides and Risk of Dementia. *Alzheimer's & Dementia*, 15(7), P1033
5. Patel, D. K., **Duncan, M. S.**, Shah, A. S., Lindman, B. R., Greevy, R. A., Savage, P. D., Whooley, M. A., Matheny, M. E., Freiberg, M. S., & Bachmann, J. M. (2019). Association of Cardiac Rehabilitation with Decreased Hospitalization and Mortality Risk after Cardiac Valve Surgery. *JAMA Cardiology*, (pp. E1–E10)
6. Nwabuo, C. C., **Duncan, M. S.**, Xanthakis, V., Peterson, L. R., Mitchell, G. F., McManus, D., Cheng, S., & Vasan, R. S. (2019). Association of Circulating Ceramides With Cardiac Structure and Function in the Community: The Framingham Heart Study. *Journal of the American Heart Association*, 8(19). URL <https://www.ahajournals.org/doi/10.1161/JAHA.119.013050>
7. **Duncan, M. S.**, Freiberg, M. S., Jr, R. A. G., Kundu, S., Vasan, R. S., & Tindle, H. A. (2019a). Association of Smoking Cessation With Subsequent Risk of Cardiovascular Disease. *Journal of the American Medical Association*, 322(7), 642–650

*Equal contribution

Selected Media Coverage

- *Cardiology Consultant Podcast*: Meredith Duncan on CVD Risk After Smoking Cessation
 - *Boston Globe*: Want your heart to recover from smoking? The sooner you quit, the better, researchers say
 - *WebMD*: It Takes Years for Heart to Recover from Smoking
 - *AJMC*: Smoking Cessation Found to Lower Risk of Cardiovascular Disease
8. Beckman, J. A., **Duncan, M. S.**, Damrauer, S. M., Wells, Q. S., Barnett, J. V., Wasserman, D. H., Bedimo, R. J., Butt, A. A., Marconi, V. C., Sico, J. J., Tindle, H. A., Bonaca, M. P., Aday, A. W., & Freiberg, M. S. (2019). Microvascular Disease, Peripheral Artery Disease and Amputation. *Circulation*, (p. CIRCULATIONAHA.119.040672).
URL <https://www.ahajournals.org/doi/10.1161/CIRCULATIONAHA.119.040672>
 9. Kaess, B. M., Andersson, C., **Duncan, M. S.**, Larson, M. G., Aasbjerg, K., Gislason, G. H., Torp-Pedersen, C., & Vasan, R. S. (2019). Familial Clustering of Cardiac Conduction Defects and Pacemaker Insertion. *Circulation: Arrhythmia and Electrophysiology*, *12*(7), 1–9.
URL <https://www.ahajournals.org/doi/10.1161/CIRCEP.119.007150>
 10. **Duncan, M. S.**, Vasan, R. S., & Xanthakis, V. (2019b). Trajectories of Blood Lipid Concentrations Over the Adult Life Course and Risk of Cardiovascular Disease and All-Cause Mortality: Observations From the Framingham Study Over 35 Years. *Journal of the American Heart Association*, *8*(11).
URL <https://www.ahajournals.org/doi/10.1161/JAHA.118.011433>
 11. Tindle, H. A., **Duncan, M. S.**, Greevy, R. A., Vasan, R. S., Kundu, S., Massion, P. P., & Freiberg, M. S. (2018a). Lifetime Smoking History and Risk of Lung Cancer: Results From the Framingham Heart Study. *Journal of the National Cancer Institute*, *110*(11), 1201–1207
 12. Peterson, L. R., Xanthakis, V.*, **Duncan, M. S.***, Gross, S., Friedrich, N., Völzke, H., Felix, S. B., Jiang, H., Sidhu, R., Nauck, M., Jiang, X., Ory, D. S., Dörr, M., Vasan, R. S., & Schaffer, J. E. (2018). Ceramide remodeling and risk of cardiovascular events and mortality. *Journal of the American Heart Association*, *7*(10)
 13. Marconi, V. C., **Duncan, M. S.**, So-Armah, K., Lo Re, V., Lim, J. K., Butt, A. A., Goetz, M. B., Rodriguez-Barradas, M. C., Alcorn, C. W., Lennox, J., Beckman, J. A., Justice, A., & Freiberg, M. (2018). Bilirubin is inversely associated with cardiovascular disease among HIV-positive and HIV-negative individuals in VACS (Veterans Aging Cohort Study). *Journal of the American Heart Association*, *7*(10), 1–12
 14. Beckman, J. A., **Duncan, M. S.**, Alcorn, C. W., So-Armah, K., Butt, A. A., Goetz, M. B., Tindle, H. A., Sico, J. J., Tracy, R. P., Justice, A. C., & Freiberg, M. S. (2018). Association of human immunodeficiency virus infection and risk of peripheral artery disease. *Circulation*, *138*(3), 255–265
 15. Bachmann, J. M., **Duncan, M. S.**, Shah, A. S., Greevy, R. A., Lindenfeld, J. A., Keteyian, S. J., Thomas, R. J., Whooley, M. A., Wang, T. J., & Freiberg, M. S. (2018a). Association of Cardiac Rehabilitation With Decreased Hospitalizations and Mortality After Ventricular Assist Device Implantation. *JACC: Heart Failure*, *6*(2), 130–139
 16. Nayor, M., **Duncan, M. S.**, Musani, S. K., Xanthakis, V., LaValley, M. P., Larson, M. G., Fox, E. R., & Vasan, R. S. (2018). Incidence of cardiovascular disease in individuals affected by recent changes to US blood pressure treatment guidelines. *Journal of Hypertension*, *36*(2), 436–443.
URL <http://insights.ovid.com/crossref?an=00004872-201802000-00029>
 17. Brittain, E. L., **Duncan, M. S.**, Chang, J., Patterson, O. V., DuVall, S. L., Brandt, C. A., So-Armah, K. A., Goetz, M., Akgun, K., Crothers, K., Zola, C., Kim, J., Gibert, C., Pisani, M., Morris, A., Hsue, P., Tindle, H. A., Justice, A., & Freiberg, M. (2018). Increased echocardiographic pulmonary pressure in HIV-infected and -uninfected individuals in the veterans aging cohort study. *American Journal of Respiratory and Critical Care Medicine*, *197*(7), 923–932

18. Wells, Q. S., Freiberg, M. S., Greevy, R. A., Tyndale, R. F., Kundu, S., **Duncan, M. S.**, King, S., Abney, L., Scoville, E., Beaulieu, D. B., Gatskie, V., & Tindle, H. A. (2018). Nicotine metabolism-informed care for smoking cessation: A pilot precision RCT. *Nicotine and Tobacco Research*, *20*(12), 1489–1496
19. Bachmann, J. M., Shah, A. S., **Duncan, M. S.**, Greevy, R. A., Graves, A. J., Ni, S., Ooi, H. H., Wang, T. J., Thomas, R. J., Whooley, M. A., & Freiberg, M. S. (2018b). Cardiac rehabilitation and readmissions after heart transplantation. *Journal of Heart and Lung Transplantation*, *37*(4), 467–476.
URL <http://dx.doi.org/10.1016/j.healun.2017.05.017>
20. Tindle, H. A., **Duncan, M. S.**, Liu, S., Kuller, L. H., Fugate Woods, N., Rapp, S. R., Kroenke, C. H., Coday, M., Loucks, E. B., Lamonte, M. J., Progovac, A. M., Salmoirago-Blotcher, E., Walitt, B. T., Yuo, N. C. Y., & Freiberg, M. S. (2018b). Optimism, pessimism, cynical hostility, and biomarkers of metabolic function in the Women’s Health Initiative. *Journal of Diabetes*, *10*(6), 512–523
21. Spartano, N. L., **Stevenson, M. D.**, Xanthakis, V., Larson, M. G., Andersson, C., Murabito, J. M., & Vasan, R. S. (2017). Associations of objective physical activity with insulin sensitivity and circulating adipokine profile: the Framingham Heart Study. *Clinical Obesity*, *7*(2), 59–69
22. Sebastiani, P., Andersen, S. L., McIntosh, A. I., Nussbaum, L., **Stevenson, M. D.**, Pierce, L., Xia, S., Salance, K., & Perls, T. T. (2016). Familial Risk for Exceptional Longevity. *North American Actuarial Journal*, *20*(1), 57–64.
URL <http://www.tandfonline.com/doi/full/10.1080/10920277.2015.1061946>
23. **Stevenson, M.**, Bae, H., Schupf, N., Andersen, S., Zhang, Q., Perls, T., & Sebastiani, P. (2015). Burden of disease variants in participants of the long life family study. *Aging*, *7*(2), 123–132
24. **Stevenson, M.**, & Porter, J. E. (2009). Fuzzy Time Series Forecasting Using Percentage Change as the Universe of Discourse. *World Academey of Science, Engineering and Technology*, *55*(7), 154–157

*Equal contribution