

Jennifer Feder Bobb, PhD  
Curriculum Vitae  
(Updated October 8, 2020)

## Biographical and educational information

Jennifer F. Bobb, PhD  
Associate Scientific Investigator  
Biostatistics Unit, Kaiser Permanente Washington Health Research Institute (KPWHRI)  
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<https://www.kp.washingtonresearch.org/our-research/our-scientists/bobb-jennifer-f>

Affiliate Assistant Professor  
Department of Biostatistics, University of Washington

PhD Biostatistics, Johns Hopkins Bloomberg School of Public Health, 2012  
BA Mathematics, *summa cum laude*, Washington University in St. Louis, 2006

## Professional positions

### Current

*Associate Scientific Investigator*, Biostatistics Unit, Kaiser Permanente Washington Health Research Institute, September 2020–present

*Affiliate Assistant Professor*, Department of Biostatistics, University of Washington, April 2017–present

### Prior

*Assistant Scientific Investigator*, Biostatistics Unit, Kaiser Permanente Washington Health Research Institute (formerly Group Health Research Institute), July 2015–September 2020

*Research associate*, Department of Biostatistics, Harvard T.H. Chan School of Public Health (Harvard Chan School), 2013–2015

*Postdoctoral fellow*, Department of Biostatistics, Harvard Chan School, 2012–2013

*Research assistant*, Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health, 2008–2011

*Student software developer*, R Project for Statistical Computing, Google Summer of Code, 2011

*Data analyst*, Career Services and Disability Support Office, Johns Hopkins Bloomberg School of Public Health, 2008–2010

## Professional honors

NIEHS Paper of the Year, 2015

Junior Researcher Travel Award, Women in Statistics Conference, 2014

John M. Chambers Statistical Software Award, ASA Section on Statistical Computing, 2012

Statistics in Epidemiology Young Investigator Award, ASA Section on Statistics in Epidemiology, 2011

Louis I. and Thomas D. Dublin Award for the Advancement of Epidemiology and Biostatistics, Johns Hopkins Bloomberg School of Public Health, 2011

First place, Delta Omega Biostatistics Poster Competition, Johns Hopkins Bloomberg School of Public Health, 2011

Sommer Scholar, Johns Hopkins Bloomberg School of Public Health, 2007–2011

NIH Environmental Biostatistics Training Grant, 2007–2011

Washington University Dean's Scholarship, 2002–2006

Sigma Xi, scientific research honorary, 2006

NSF Research Experience for Undergraduates, Summers 2004, 2005

## Memberships

American Statistical Association

Western North American Region, International Biometric Society

## Organizational service, KPWHRI

Biostatistics Journal Club organizer, 2016–present

Search committee for collaborative biostatistician hire, 2018

Orientation mentor for new faculty, 2018

Evaluation committee member for opportunistic hire, 2016

## Other professional service

National service

Conference Session Organizer, 3rd Seattle Symposium on HealthCare Data Analytics, 2018

Conference Session Chair, Joint Statistical Meetings, 2012

Local service and involvement, UW

PhD applied exam committee member, Department of Biostatistics, 2018

Grader, PhD applied exam, Department of Biostatistics, 2018–2019

Local service and involvement, prior institutions

Co-organizer, Complex Mixtures Analysis Working Group, 2012–2014, Harvard Chan School

Organizer, Student Journal Club, Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health, 2009–2010

## Special national responsibilities

Invited member, Committee on Funded Research, American Statistical Association, 2019–2021

Invited member, Regional Advisory Board, West North Atlantic Region of the International Biometric Society, 2016–2018

## Editorial responsibilities

Associate Editor, *Biostatistics*, Feb. 2017–present

Reviewer (Peer review history available on [Publons](#))

American Journal of Epidemiology  
Annals of Applied Statistics  
Biometrics  
Biostatistics  
BMC Public Health  
BMJ  
Environmental Health  
Environmental Health Perspectives  
Epidemiology  
Generating Evidence & Methods to Improve Patient Outcomes  
International Journal of Biometeorology  
International Journal of Epidemiology  
JAMA  
JASA  
Journal of Agricultural, Biological, and Environmental Statistics  
Journal of the Royal Statistical Society (Series A; Series C)  
Nature Climate Change  
PLOS One  
Science of the Total Environment  
Statistics in Medicine  
Statistical Methods in Medical Research  
The American Statistician

## Research funding

### Ongoing projects

Co-investigator (PI, KPWHRI subcontract), *New causal inference methods for cluster randomized trials with post-randomization selection-bias*, (PI: Li), PCORI; Direct Costs: \$115,333, 0.10 FTE, 2020–2022

Co-investigator, *Patient-centered team-based primary care to treat opioid use disorder, depression, and other conditions (PC<sup>2</sup>Too)*, U01 MH121949 (PI: DeBar, Bradley), NIMH; Direct Costs: \$11,457,273, 0.10–0.15 FTE, 2019–2024

Co-investigator, *Understanding practical alcohol measures in primary care to prepare for measurement-based care: scaled EHR Measures of alcohol use and DSM-5 alcohol use disorder (AUD) symptoms*, R21AA028073/R33 (PI: Hallgren), NIAAA; Direct Costs: \$745,144, 0.10 FTE, 2019–2024

Co-investigator, *Integration of firearm suicide prevention tools in health care settings: patient-reported access to firearms and decision aid for securing firearms*, Kaiser Permanente Firearm Injury Prevention Taskforce Award (PI: Richards); Direct Costs: \$113,939, 0.05 FTE, 2019–2021

Co-investigator, *The Michigan sustained patient-centered alcohol-related care (MI-SPARC) trial*, R18HS027076-01 (PI: Bradley), AHRQ; Direct Costs: \$1,944,841, 0.05–0.10 FTE, 2019–2022

Co-investigator, *Digital treatments for opioids and other substance use disorders (DIGITS) in primary care: A hybrid type-III implementation trial*, R01DA047954 (PI: Glass), NIDA; Direct Costs: \$2,504,751, 0.10 FTE, 2019–2024

Co-investigator, *PRimary care Opioid Use Disorders Treatment (PROUD) Trial* (CTN-0074). UG1 DA040314 (PI: Bradley), NIDA; Direct Costs: \$11,885,123, 0.10 FTE, 2017–2020

Co-investigator, *Moving to Health: How changing built environments impact weight and glycemic control*, R01 DK114196 (PI: Arterburn), NIDDK; Direct Costs: \$2,157,999; 0.20 FTE, 9/1/2017–8/31/2022.

Co-investigator, *Psychological benefits and potential pathogen transmission in hospitalized pediatric oncology patients receiving therapy dog visits: a randomized controlled trial*, R21 HD091877-01 (PI: Chubak), NICHD; Direct Costs: \$342,090; 0.05–0.10 FTE, 5/1/2017–4/30/2019 Key Personnel: HIPPO. R21 HD091877.

Co-investigator, *Integrating Addiction Research in Health Systems: the Addiction Research Network*, UG1 DA040314 (PI: Campbell, Bradley, Weisner), NIDA; Direct Costs: \$713,143; 0.10 FTE, 9/1/2015–5/31/2020

## Completed projects

Co-investigator, *Evaluation of the Risk of Neural Tube Defects Among Live Births Exposed to Maternal Prescription Opioids During Early Pregnancy using MEPREP*, Food and Drug Administration, Direct Costs: \$470,212; 0.20 FTE, 2016–2019

Co-investigator (PI, KPWHRI subcontract), *Cardiovascular Health and Air Pollution: A National Study*, R01 ES024332-01A1 (PI: Zanobetti), NIEHS; Direct Costs: \$59,084; 0.08 FTE, 8/1/2015–2/28/2019

Co-investigator, *Alzheimer's Disease patient registry (ADPR/ACT)*, U01 AG006781 (PI: Larson, Crane), NIA; Direct Costs: \$10,329,826; 0.10 FTE, 5/15/2015-1/30/2018

Co-investigator, *Integrating Addiction Research in Health Systems: the Addiction Research Network (ARN) - Supplement*, UG1 DA040314 (PI: Campbell, Bradley, Weisner), NIDA; Direct Costs: \$299,007; 0.15 FTE, 9/1/2015–5/31/2017

Co-investigator, *Alcohol-related care and outcomes for outpatients with HIV in a national VA cohort*, R21 AA022866 (PI: Bradley, Williams), NIAAA; Direct Costs: \$274,168; 0.10 FTE, 2/15/2015–1/31/2017

Co-investigator, *Elective Induction of Labor and Pregnancy Outcomes*, R01 HD071986 (PI: Dublin, Getahun), NICHD; 0.15 FTE, 9/1/2013–5/31/2017

Principal investigator, *Developing statistical software for estimating the joint effects of multiple risk factors*, GHRI Directors Project Resource Fund; Direct Costs: \$2,970; 0.00 FTE, 9/1/2015–3/1/2016

Principal investigator, *A statistical approach for estimating the health effects of air pollution mixtures on multiple outcomes simultaneously*, HSPH-NIEHS Center Pilot Project P30ES000002; Direct Costs: \$22,000; 4/1/15–3/31/16

Co-investigator, *Vulnerability and Adaptation to Heat and Air Pollution in a Changing Climate*, R21 ES022585 (PI: Dominici), NIEHS, 12/18/13–8/31/15

Postdoctoral fellow, *Air Pollution and Pregnancy Outcome in New York City*, R01 ES019955 (PI: Savitz), NIEHS, 7/01/11–3/31/15

## Teaching and mentoring responsibilities

### Teaching

Guest lecturer

“Use of propensity scores in (pharmaco)epidemiology research,” *Pharmacoepidemiology*, University of Washington School of Public Health, 2018, 2020

“Quantifying future mortality attributable to extreme heat under global climate change: A case study of Bayesian methodology in environmental health,” *Bayesian Methodology in Biostatistics*, Harvard Chan School, 2012, 2013

“Bayesian methods for estimating health risks of environmental exposures,” *Advanced Methods in Biostatistics IV*, Johns Hopkins Bloomberg School of Public Health, 2011

*Advanced Methods in Biostatistics II*, Johns Hopkins Bloomberg School of Public Health, 2010

*Design of Clinical Experiments*, Johns Hopkins Bloomberg School of Public Health, 2010

*Methods in Biostatistics IV*, Johns Hopkins Bloomberg School of Public Health, 2009

Teaching assistant, Johns Hopkins Bloomberg School of Public Health

*Advanced Methods in Biostatistics II–IV* (Doctoral level), 2010–2011

*Design of Clinical Experiments*, 2010

*Data Analysis Workshop I–II*, Summers 2009, 2010

*Multilevel Statistical Models in Public Health*, 2009

*Analysis of Longitudinal Data*, 2009

*Essentials of Probability and Statistical Inference I–II* (Masters level), 2009

*Methods in Biostatistics I–IV* (Masters level), 2008–2009

### Mentoring

Masters Theses, Chair

Qianqian Chen, 2018–2019, Biostatistics, University of Washington

PhD committees in non-chair roles

Phuong T. Vu, 2018–2019, PhD candidate, Biostatistics, University of Washington

Stacy Pettigrew, 2016–2018, PhD candidate, Environmental Health Sciences, University of Albany

Shelley Liu, 2013–2016, PhD candidate, Biostatistics, Harvard Chan School

Mentored students

Stephanie Hopp, 2014–2018, Post-Baccalaureate Certificate in Pre-Medical Studies, Boston University (2014–2015); Medical student, Alabama College of Osteopathic Medicine (2016–2018)

Ernesto Ulloa, Fall 2015, PhD student, Biostatistics, University of Washington

Yan Wang, 2014–2016, PhD candidate, Biostatistics, Environmental Health Sciences, Harvard Chan School

Elizabeth Smoot, 2014–2015, PhD, Biostatistics, Harvard Chan School

Bianca Papi, 2013–2015, MA, Biostatistics, Sapienza University of Rome

## Research associates

Hongxiang Qiu, Fall 2016–present, PhD student, Biostatistics, University of Washington

Yunhua Xiang, Fall 2017–Spring 2018, PhD student, Biostatistics, University of Washington

## Publications (\* Indicates mentored work of student)

### Published papers in peer-reviewed journals

1. Zhao Y, Naumova EN, **Bobb JF**, Claus Henn B, Singh GM (In press). Joint association of multiple dietary components on cardiovascular disease risk: a machine learning approach. *American Journal of Epidemiology*.
2. Cheetham C, Dublin S, Pocobelli G, **Bobb JF**, Andrade S, Portugal C, Munis M, Albertson-Junkans L, Salgado G, Griffin M, Raebel M, Smith D, Li D, Pawloski P, Toh D, Taylor L, Hua W, Graham D, Dinatale M, Ceresa C, Trinidad J, Boudreau DM (In press). Validity of diagnosis and procedure codes for identifying neural tube defects. *Pharmacoepidemiology and Drug Safety*.
3. Bauer JA, Devick K, **Bobb JF**, et al (In press). Associations of a metal mixture measured in multiple biomarkers with IQ: Evidence from Italian adolescents living near ferroalloy industry. *Environmental Health Perspectives*.
4. Matson TE, Lapham GT, **Bobb JF**, Johnson EJ, Richards JE, Lee AK, Bradley KA, Glass JE (In press). Cannabis use, other drug use, and risk of subsequent acute care in primary care patients. *Drug and Alcohol Dependence*.
5. Williams EC, McGinnis KA, Rubinsky AD, Matson TE, **Bobb JF**, Lapham GT, Edelman EJ, Satre DD, Catz SL, Richards JE, Bryant KJ, Marshall BDL, Kraemer KL, Crystal S, Gordon AJ, Skanderson M, Fiellin DA, Justice AC, Bradley KA (In press). Alcohol Use and Antiretroviral Adherence Among Patients Living with HIV: Is Change in Alcohol Use Associated with Change in Adherence? *AIDS and Behavior*
6. Boudreau DM, Lapham GT, Johnson E, **Bobb JF**, Matthews A, McCormack J, Liu D, Campbell C, Rossom R, Binswanger IA, Yarborough B, Arnsten JH, Cunningham CO, Glass JE, Murphy M, Zare M, Hechter R, Ahmedani B, Braciszewski J, Horigian V, Szapocznik J, Samet J, Saxon A, Schwartz R, Bradley KA (2020). Documented opioid use disorder and its treatment in primary care across six US health systems. *Journal of Substance Abuse Treatment*. 112:41–8.
7. Sayre M, Lapham GT, Lee AK, Oliver M, **Bobb JF**, Bradley KA (2020). Symptoms of DSM 5 Substance Use Disorders Reported by Primary Care Patients with High Risk Substance Use. *Journal of General Internal Medicine*. 35, 1111—1119
8. Mooney SJ, **Bobb JF**, Hurvitz PM, Anau J, Theis MK, Drewnowski A, Aggarwal A, Gupta S, Rosenberg DE, Cook AJ, Shi X, Lozano P, Moudon AV, Arterburn D (2020). Impact of Built Environments on Body Weight (the Moving to Health Study): Protocol for a Retrospective Longitudinal Observational Study. *JMIR Research Protocols*.9(5):e16787.
9. **Bobb JF**, Qiu H, Matthews AG, McCormack J, Bradley KA (2020). Addressing identification bias in the design and analysis of cluster-randomized pragmatic trials: a case study. *Trials*. 21(1):289.

\*Included in collection on [The future of pragmatic trials](#)

10. Lapham GT, Boudreau DM, Johnson EA, **Bobb JF**, Matthews AG, McCormack JF, Liu D, Samet JH, Saxon AJ, Campbell CI, Glass JE, Rossom RC, Murphy MT, Binswanger IA, Yarborough BH, PROUD Collaborative Authors, Bradley KA (2020). Prevalence and Treatment of Opioid Use Disorder Among Primary Care Patients in Six Health Systems. *Drug and Alcohol Dependence*. 207:107732.
11. Williams EC, **Bobb JF**, Lee AK, Ludman EJ, Richards JE, Hawkins EJ, Merrill JO, Saxon AJ, Lapham GT, Matson TE, Chavez LJ, Caldeiro R, Greenberg DM, Kivlahan DR, Bradley KA (2019). Effect of a care management intervention on 12-month drinking outcomes among patients with and without DSM-IV alcohol dependence at baseline. *Journal of General Internal Medicine*.
12. Richards JE, **Bobb JF**, Lee AK, Lapham GT, Williams EC, Glass JE, Ludman E, Achtmeyer C, Caldeiro RM, Oliver M, Bradley KA (2019). Integration of screening, assessment, and treatment for cannabis and other drug use disorders in primary care: an evaluation in three pilot sites. *Drug and Alcohol Dependence*. 201:134–141
13. Domingo-Relloso A, Grau-Perez M, Briongos-Figuero L, Gomez-Ariza JL, Garcia-Barrera T, **Bobb JF**, Martin-Escudero JC, Chaves FJ, Kioumourtzoglou M, Navas-Acien A, Redon-Mas J, Tellez-Plaza M (2019). The association of urine metals and metal mixtures with cardiovascular incidence in an adult population from Spain: the Horteiga Follow-Up Study. *International Journal of Epidemiology*. 1–11
14. Nelson JC, Ulloa E, **Bobb JF**, Maro JC (2019). Leveraging the entire cohort in drug safety monitoring: A review of sequential surveillance methods that use regression or weighting to control confounding in a rare event setting. *Journal of Clinical Epidemiology*. 112:77–86
15. Pettigrew S, Pan W, Berky A, Harrington J, **Bobb JF**, Feingold B (2019). In urban, but not rural, areas of Madre de Dios, Peru, adoption of a Western diet is inversely associated with selenium intake. *Science of the Total Environment*. 687:1046–1054
16. Williams EC, McGinnis KA, Tate JP, Matson TE, Rubinsky AD, **Bobb JF**, Lapham GT, Edelman EJ, Catz SL, Satre DD, Bryant KJ (2019). HIV disease severity is sensitive to temporal changes in alcohol use: a national study of VA patients with HIV. *Journal of Acquired Immune Deficiency Syndromes*. 81 (4):448–455
17. Drewnowski A, Arterburn D, Zane JN, Aggarwal A, Gupta S, Hurvitz PM, Moudon AV, **Bobb JF**, Cook AJ, Lozano P, Rosenberg D (2019). Moving to Health: a natural experiment to study the impact of the built environment on long-term health. *SSM-Population Health*. 7(100345).
18. Shortreed SM, Cook AJ, Coley RY, **Bobb JF**, Nelson JC (2019). Challenges and opportunities for using big health care data to advance medical science and public health. *American Journal of Epidemiology*. 188(5):851–861
19. **Bobb JF**, Claus Henn B, Valeri L, Coull BA (2018). Statistical software for estimating the joint health effects of multiple concurrent exposures via Bayesian kernel machine regression. *Environmental Health*. 17(1):67.
20. Liu SH, **Bobb JF**, Claus Henn B, Gennings C, Schnaas L, Tellez-Rojo M, Bellinger D, Arora A, Wright RO, Coull BA (2018). Bayesian varying coefficient kernel machine regression to assess cognitive trajectories associated with exposure to complex mixtures. *Statistics in Medicine*. 37(30):4680–4694.

21. Marcum ZA, Walker R, **Bobb JF**, Sin MK, Gray SL, Bowen JD, McCormick W, McCurry SM, Crane PK, Larson EB (2018). Serum cholesterol and incident Alzheimer's disease: Findings from the Adult Changes in Thought Study. *J Am Geriatr Soc.* 66(12):2344–2352.
22. Sordillo JE, Switkowski KM, Coull BA, Schwartz J, Kloog I, Gibson H, Litonjua AA, **Bobb J**, Koutrakis P, Rifas-Shiman SL, Oken E (2018). Relation of Prenatal Air Pollutant and Nutritional Exposures with Biomarkers of Allergic Disease in Adolescence. *Scientific Reports.* 8:10578.
23. Glass JE, **Bobb JF**, Lee AK, Richards JE, Lapham GT, Ludman E, Achtmeyer C, Caldeiro RM, Parrish R, Williams EC, Lozano P, Bradley KA (2018). Study protocol: a cluster randomized trial implementing sustained patient-centered alcohol-related care (SPARC Trial). *Implementation Science.* 13(1)108.
24. Yitzhak-Sade M, **Bobb JF**, Schwartz J, Kloog I, Zanobetti A (2018). The synergistic effect of short and long-term exposure to PM<sub>2.5</sub> and temperature on hospital admissions in New England. *Science of the Total Environment.* 639:868–875.
25. Williams E, McGinnis KA, **Bobb JF**, Rubinsky AD, Lapham GW, Skanderson M, Catz SL, Bensley KM, Richards JE, Bryant KJ, Edelman J, Satre DD, Marshall BD, Kraemer KL, Blosnich JR, Crystal S, Gordon AJ, Fiellin DA, Justice AC, Bradley KA (2018). Changes in alcohol use associated with changes in HIV disease severity over time: A national longitudinal study in the Veterans Aging Cohort. *Drug and Alcohol Dependence.* 189:21–29.
26. Liu SH, **Bobb JF**, Claus Henn B, Schnaas L, Tellez-Rojo M, Gennings C, Arora M, Wright BO, Coull BA, Wand MP (2018). Modeling the health effects of time-varying complex environmental mixtures: Mean field variational Bayes for lagged kernel machine regression. *Environmetrics.* 29(4):e2504.
27. \*Hopp S, Dominici F, **Bobb JF** (2018). Medical diagnoses of heat wave-related hospital admissions in older adults. *Preventive Medicine.* 110:81–85.
28. Bradley KA, **Bobb JF**, Ludman EJ, Chavez LJ, Saxon AJ, Merrill JO, Williams EC, Hawkins EJ, Caldeiro RM, Achtmeyer CE, Greenberg DM, Lapham GT, Richards JE, Lee AK, Kivlahan DR (2018). Alcohol-related nurse care management in primary care: a randomized clinical trial. *JAMA Internal Medicine.* 178(5):613–621.
29. Liu SH, **Bobb JF**, Lee K, Gennings C, Claus Henn B, Wright BO, Schnaas L, Tellez-Rojo M, Arora M, Coull BA (2017). Lagged Kernel Machine Regression for Identifying Time Windows of Susceptibility to Exposures of Complex Metal Mixtures. *Biostatistics.* 19(3):325–341.  
\*Winner of the 2017 International Biometric Society Eastern North American Region's (ENAR) Distinguished Student Paper Award
30. **Bobb JF**<sup>†</sup>, Lee AK<sup>†</sup>, Lapham GT, Oliver M, Ludman E, Achtmeyer C, Parrish R, Caldeiro RM, Lozano P, Richards JE, Bradley KB (2017). Evaluation of a pilot implementation to integrate alcohol-related care within primary care. *International Journal of Environmental Research and Public Health.* 14(9)1030. PMID: 28885557  
<sup>†</sup>Indicates equal contribution to the conceptualization and writing of the manuscript
31. Bradley KA, Ludman EJ, Chavez L, **Bobb JF**, Ruedebusch SJ, Achtmeyer C, Merrill JO, Saxon AJ, Caldeiro R, Greenberg DM, Lee AK, Richards JE, Thomas RM, Matson TE, Williams EC, Hawkins E, Lapham G, Kivlahan DR (2017). Patient-centered Primary Care for Adults at High Risk for AUDs: the Choosing Healthier Drinking in Collaborative Care (CHOICE) Trial. *Addiction Science & Clinical Practice.* 12(1):15



32. Williams EC, Lapham GT, **Bobb JF**, Rubinsky AD, Catz SL, Shortreed SM, Bensley KM, Bradley KA (2017). Documented brief intervention not associated with resolution of unhealthy alcohol use one year later among VA patients living with HIV. *Journal of Substance Abuse Treatment*. 78:8–14
33. Williams EC, Lapham GT, Shortreed S, Rubinsky AD, **Bobb JF**, Bensley KM, Catz S, Richards J, Bradley KA (2017). Among patients with unhealthy alcohol use, those with HIV are less likely than those without to receive evidence-based alcohol-related Care: a national VA study. *Drug and Alcohol Dependence*. 174:113–120
34. Valeri L, Mazumdar M, **Bobb JF**, Claus Henn B, Rodrigues E, Sharif OIA, Kile ML, Quamruzzaman Q, Afroz S, Golam M, Amarasiriwardena C, Bellinger DC, Christiani DC, Coull BA, Wright RO (2017). The joint effect of prenatal exposure to metal mixtures on neurodevelopmental outcomes at 20–40 months of age: evidence from rural Bangladesh. *Environmental Health Perspectives*. 125(6):067015.
35. **Bobb JF**, Ho KL, Yeh RW, Harrington L, Zai A, Liao KP, Dominici F (2017). Time-course of cause-specific hospital admissions during snowstorms: an analysis of electronic medical records from major hospitals in Boston. *American Journal of Epidemiology*. 185(4):283–294.  
\*Media coverage: Reuters, CBS News, Harvard press release
36. Valeri L, Patterson-Lomba O, Gurmu Y, Ablorh A, **Bobb JF**, Townes W, Harling G (2016). Predicting subnational Ebola virus disease epidemic dynamics from sociodemographic indicators. *PLOS ONE*. 11(10): e0163544.
37. \*Wang Y, **Bobb JF**, Papi B, Wang R, Kosheleva A, Di Q, Schwartz JD, Dominici F (2016). Heat stroke admissions during heat waves in 1,916 US counties for the period from 1999 to 2010 and their effect modifiers. *Environmental Health*. 15(1):83. PMID: 27503399.
38. Johnson S, **Bobb JF**, Ito K, Elston B, Matte T, Shmool JLC, Dominici F, Ross Z, McAlexander T, Clougherty JE, Savitz D (2016). Ambient fine particulate matter, nitrogen dioxide, and preterm birth in New York City. *Environmental Health Perspectives*. 124(8):1283–90.
39. Shmool JLC, **Bobb JF**, Savitz DA, Ito K, Matte TD, Johnson S, Elston B, Ross Z, Dominici F, Clougherty JE (2015). Area-level socioeconomic deprivation, nitrogen dioxide exposure, and term birth weight in New York City. *Environmental Health*. 142:624–32.
40. Savitz DA, Elston B, **Bobb JF**, Clougherty JE, Dominici F, Ito K, Johnson S, McAlexander T, Ross Z, Shmool JLC, Matte TD, Wellenius GA (2014). Ambient fine particulate matter, nitrogen dioxide, and hypertensive disorders of pregnancy in New York City. *Epidemiology*. 25(5):748–57.
41. **Bobb JF**, Valeri L, Claus Henn B, Christiani DC, Wright RO, Mazumdar M, Godleski JJ, Coull BA (2015). Bayesian kernel machine regression for estimating the health effects of multi-pollutant mixtures. *Biostatistics*. 16(3):493–508.  
\*Featured in a [Researcher Spotlight](#) by the Harvard T.H. Chan School of Public Health Superfund Program
42. **Bobb JF**, Obermeyer Z, Wang Y, Dominici F (2014). Cause-specific risk of hospital admission related to extreme heat in older adults. *JAMA*. 312(24):2659–2667.  
\*Recognized as one of the [Papers of the Year](#) by the National Institute of Environmental Health Sciences
43. **Bobb JF**, Peng RD, Bell ML, Dominici F (2014). Heat-related mortality and adaptation to heat in the United States. *Environmental Health Perspectives*. 122:811–816.  
\*Featured as a [Science Selection](#) by Environmental Health Perspectives

\*\*Included as 'Highly cited original research' in the [Extreme Weather Collection](#) by Environmental Health Perspectives

44. Savitz DA, **Bobb JF**, Carr JL, Clougherty JE, Dominici F, Elston B, Ito K, Ross Z, Yee M, Matte TD (2014). Ambient fine particulate matter, nitrogen dioxide, and term birth weight in New York City. *American Journal of Epidemiology*. 179(4):457-66
45. **Bobb JF**, Schwartz BS, Davatzikos C, Caffo B (2014). Cross-sectional and longitudinal association of body mass index and brain volume. *Human Brain Mapping*. 35(1):75-88.
46. Roberts AL, Lyall K, Hart JE, Laden F, Just AC, **Bobb JF**, Koenen KC, Ascherio A, Weisskopf MG (2013). Perinatal air pollutant exposures and autism spectrum disorder in the children of Nurses' Health Study II participants. *Environmental Health Perspectives*. 121(8):978-84.
47. **Bobb JF**, Dominici F, Peng RD (2013). Reduced hierarchical models with application to estimating health effects of simultaneous exposure to multiple pollutants. *Journal of the Royal Statistical Society, Series C*. 62(3):451-472.
48. James BD, Glass TA, Caffo B, **Bobb JF**, Davatzikos C, Yousem D, Schwartz BS (2012). Association of social engagement with brain volumes assessed by structural MRI. *Journal of Aging Research*. vol. 2012, Article ID 512714, 9 pages.
49. **Bobb JF**, Dominici F, Peng RD (2011). A Bayesian model averaging approach for estimating the relative risk of mortality associated with heat waves in 105 U.S. cities. *Biometrics*. 67(4):1605-1616.  
\*Received Statistics in Epidemiology Young Investigator Award
50. **Bobb JF**, Scharfstein DO, Daniels MJ, Collins FS, Kelada SN (2011). Multiple imputation of missing phenotype data for QTL mapping. *Statistical Applications in Genetics and Molecular Biology*. Vol. 10: Iss. 1, Article 29.
51. Peng RD, **Bobb JF**, Tebaldi C, McDaniel L, Bell ML, Dominici F (2011). Toward a quantitative estimate of future heat wave mortality under global climate change. *Environmental Health Perspectives*. 119(5):701-706.
52. Goldsmith J, **Bobb J**, Crainiceanu C, Caffo B, Reich D (2011). Penalized functional regression. *Journal of Computational and Graphical Statistics*. 20(4):830-851.
53. Eisenstat D, **Feder (Bobb) J**, Francos G, Gordon G, Redlich A (2008). Expected rank and randomness in rooted graphs. *Discrete Applied Mathematics*. 156(5):746-756.

### Other peer-reviewed scholarly publications

Coull BA, **Bobb JF**, Wellenius GA, Kioumourtzoglou M, Mittleman MA, Koutrakis P, Godleski JJ. (2015). New statistical methods for analyzing multiple pollutants, sources, and health outcomes. Part I: Statistical learning methods for the effects of multiple air pollution constituents. Research report. *Health Effects Institute*. Report 183

### Other non-peer reviewed scholarly publications

1. **Bobb JF**, Cook AJ, Shortreed SM, Glass JE, Vollmer WM (2019). Experimental designs and randomization schemes: designing to avoid identification bias. In: *Rethinking Clinical Trials: A Living Textbook of Pragmatic Clinical Trials*. Bethesda, MD: NIH Health Care Systems Research Collaboratory.

- Marcum ZA, Walker R, **Bobb JF**, Sin MK, Gray SL, Bowen JD, McCormick W, McCurry SM, Crane PK, Larson EB (2019). Reply to: Comment on: Serum cholesterol and incident Alzheimer's disease: findings from the Adult Changes in Thought Study. *Journal of the American Geriatrics Society*. 67(6):1303–1305.

## Software

- Bobb JF**. `bkmr`: An implementation of Bayesian kernel machine regression for estimating the joint health effects of multiple concurrent exposures. R package, >15K downloads.
- Bobb JF**, Zhao H, Varadhan R. `turboEM`: A suite of convergence acceleration schemes for EM and MM algorithms. R package, >30K downloads.

\*Winner of the 2012 [John M. Chambers Statistical Software Award](#)

## Submitted manuscripts

- Bobb JF**, Cruz MF, Mooney SJ, Drewnowski A, Arterburn D, Cook AJ. Accounting for spatial confounding in epidemiological studies of individual-level exposures: an exposure penalized spline approach
- Campbell CI, Saxon AJ, Boudreau DM, Wartko PD, **Bobb JF**, Lee AK, Matthews AG, McCormack J, Liu DS, Addis M, Altschuler A, Samet JH, Labelle C, Arnsten J, Caldeiro RM, Borst DT, Stotts AL, Braciszewski JM, Szapocznik J, Bart GB, Schwartz RP, McNeely J, Liebschutz JM, Tsui JI, Merrill JO, PROUD Trial Study Group, Bradley KA. Primary Care Opioid Use Disorders treatment (PROUD) trial protocol A pragmatic, cluster-randomized implementation trial in primary care for opioid use disorder treatment CTN 0074
- Tsui JI, Akosile MA, Lapham GT, Boudreau DM, Johnson EA, **Bobb JF**, et al. Opioid use disorder diagnosis and treatment among primary care patients with and without hepatitis C and HIV: data from 6 health systems
- Buszkiewicz JH, **Bobb JF**, Hurvitz PM, Arterburn D, Moudon AV, Cook AJ, Mooney SJ, Cruz M, Gupta S, Lozano P, Rosenberg DE, Theis MK, Anau J, Drewnowski A. Obesogenic neighborhoods or neighborhoods with concentrated obesity? Built environment and trajectories of body weight
- Chen C, Warrington JA, Dominici F, Peng RD, Esty DC, Wang Y, **Bobb JF**, Bell ML. Long-term temporal trend in the association between short-term exposure to fine particulate matter and hospitalizations in older adults
- Pocobelli G, Dublin S, **Bobb JB**, Albertson-Junkans L, Andrade S, Cheetham TC, Salgado G, Griffin MR, Raebel MA, Smith S, Li D, Pawloski PA, Toh S, Taylor L, Hua W, Horn P, Trinidad JP, and Boudreau DM. Prevalence of prescription opioid use during pregnancy in 8 U.S. health plans during 2001-2014
- Zanobetti A, Coull BA, Luttmann-Gibson H, van Rossem L, Rifas-Shiman SL, Kloog I, Schwartz JD, Oken E, **Bobb JF**, Koutrakis P, Gold DR. Ambient lead and vanadium concentrations are associated with newborn blood pressure in Project Viva.
- Dublin S, Walker RL, **Bobb JF**, Caughey AB, Hold VL, Wing DA, Shi JM, Duchovny D, Getahun D. Outcomes after non-indicated induction of labor compared to expectant management: a retrospective cohort study.

9. Devick KL, **Bobb JF**, Mazumdar MM, Henn BC, Bellinger DC, Christiani DC, Wright RO, Williams PL, Coull BA, Valeri L. Bayesian kernel machine causal mediation analysis. arXiv preprint arXiv:1811.10453. 2018 Nov 26.
10. Celik S, Russell JC, Pestana CR, Lee TI, Mukherjee S, Crane PK, Keene D, **Bobb JF**, Kaeberlein M, Lee SI. DECODER: A probabilistic approach to using big data reveals Complex I as a potential Alzheimer's disease therapeutic target. bioRxiv. 2018 Jan 1:302737.

## Manuscripts in preparation

1. \*Qiu H, **Bobb JF**. Investigating tests for cluster-randomized trials with few clusters under generalized linear mixed models with covariate adjustment
2. Campbell CI, Saxon AJ, Boudreau D, Wartko P, **Bobb JF**, Lee AK, Matthews AG, McCormack J, Liu DS, Addis M, Altschuler A, Samet JH, Labelle C, Arnsten J, Caldeiro RM, Borst DT, Stotts AL, Braciszewski, Szapocznik J, Bart G, Schwartz RP, McNeely J, Liebschutz JM, Tsui JJ, Merrill JO, Bradley K. PRimary Care Opioid Use Disorders treatment (PROUD) trial protocol: a pragmatic, cluster-randomized implementation trial
3. Boudreau DM, Qiu H, McCormack J, Matthews A, **Bobb JF**, Wartko P, Lee AK, et al. The PRimary Care Opioid Use Disorders (PROUD) Trial: a cluster-randomized implementation trial to increase OUD treatment in primary care
4. **Bobb JF**, Akosile MA, Boudreau DM, Qiu H, Wartko P, et al. Impact of offering collaborative care for opioid use disorder on acute care utilization in the PROUD trial: a cluster-randomized implementation trial
5. Braciszewski J, Akosile MA, Yarborough B, Boudreau DM, Stumbo S, Matson T, Johnson E, Lapham G, Loree A, **Bobb JF**, PROUD Study Members, Bradley KA. Psychiatric and other substance use disorders among primary care patients diagnosed with opioid use disorder
6. Boudreau DM, **Bobb JF**, et al. Evaluation of the risk of neural tube defects among live births exposed to maternal prescription opioids during early pregnancy

## Conferences and symposiums (Like presentations grouped)

### Invited presentations

#### *International*

“Bayesian kernel machine regression for estimating the health effects of multi-pollutant mixtures.” International Society for Environmental Epidemiology, Basel, Switzerland, 2013

“Accounting for model uncertainty in estimating the relative risk of mortality associated with heat waves.” *Symposium: Heat or heat waves? Does it matter which epidemiologists study?* International Society for Environmental Epidemiology, Barcelona, Spain, 2011

#### *National*

“Methods to utilize longitudinal EHR and address data connected to the built environment to assess if moving to a different environment affects health.” **Bobb JF**, Cook AJ.

Invited Speed Poster, ENAR Spring Meeting, Philadelphia, PA, 2019

Joint Statistical Meetings, Vancouver, Canada, 2018

“Statistical innovations in pragmatic trials of health-system implementation interventions,” Glass JE, **Bobb JF**, 11th Annual Conference Science Dissemination and Implementation Health, Washington, D.C., 2018

“Statistical challenges in the design of a pragmatic trial of primary care-based treatment for opioid use disorders.” 3rd Seattle Symposium on Health Care Data Analytics, Seattle, WA, 2018

“Bayesian kernel machine regression for estimating the health effects of multi-pollutant mixtures.” Biostatistics Seminar, University of Rochester, 2016

“Bayesian kernel machine regression for estimating the health effects of multi-pollutant mixtures.” Claus Henn B, **Bobb JF**, Valeri L, Coull BA. *Workshop: Statistical Approaches for Assessing Health Effects of Environmental Chemical Mixtures in Epidemiology Studies*, National Institute of Environmental Health Sciences, Research Triangle Park, NC, 2015

“Beyond the one-exposure, one-outcome paradigm for scientific discovery in environmental epidemiology”

Department of Biostatistics, Brown University, Providence, RI, 2015

Department of Biostatistics, University of Pennsylvania, Philadelphia, PA, 2015

Department of Biostatistics, University of Minnesota, Minneapolis, MN, 2015

Department of Statistics, North Carolina State University, Raleigh, NC, 2015

Department of Statistics and Applied Probability, University of California, Santa Barbara, 2015

Department of Biostatistics, University of Massachusetts, Amherst, MA, 2014

Group Health Research Institute, Seattle, WA, 2014

Department of Biostatistics, Columbia University, New York, NY, 2014

Department of Biostatistics, Yale University, New Haven, CT, 2014

“Statistical methods for estimating health effects of simultaneous exposure to multiple pollutants.” Work-in-Progress Webinar, Clean Air Research Center, Environmental Protection Agency, 2013

### *Local*

“Bayesian kernel machine regression for estimating the health effects of multi-pollutant mixtures”

Biostatistics Seminar Series, Fred Hutchinson Cancer Research Center, 2016

Biostatistics Seminar, University of Washington, 2016

“Accounting for uncertainty in estimating the health effects of climate change” Department of Biostatistics, Harvard Chan School, 2013

### **Other presentations**

“Incorporating statistical methods to address spatial confounding in large EHR data studies.” ENAR Spring Meeting, 2020

“Statistical challenges in the design of a pragmatic trial of primary care-based treatment for opioid use disorders.” 12th International Conference on Health Policy Statistics, Charleston, SC, 2018

“Overview of statistical research conducted at KPWHRI.” Biostatistics Student Seminar Series, University of Washington, 2018

**Bobb JF**, Akosile M, Zhu W (2018)

**Bobb JF**, Coley Y, Nelson J, Shortreed S, Yu O (2017)

“Data visualization in practice: examples from Kaiser Permanente Washington Health Research Institute.” **Bobb JF**, Cahill C, Fuller S, Gray M, Ichikawa, L, Coley Y, KPWHRI, 2017

“Serum cholesterol and incident Alzheimer's disease: findings from the Adult Changes in Thought Study.” ACT Research Symposium, *Advancing brain aging science through community and population-based studies*, KPWHRI, 2017

“Identification of acute health conditions during extreme heat events.” Poster, Women in Statistics Conference, Cary, NC, 2014

“Identifying the constellation of emergency health conditions most sensitive to extreme heat.” Poster, ENAR Spring Meeting, Baltimore, MD, 2014

“Bayesian kernel machine regression for estimating the health effects of multi-pollutant mixtures.”

Joint Statistical Meetings, Montreal, Canada, 2013

Superfund Research Program, Harvard Chan School, 2013

Environmental Statistics Seminar, Harvard Chan School, 2013

Clean Air Research Center, Harvard Chan School, 2013

“Ambient fine particulate matter, nitrogen dioxide, and term birth weight in New York City.” Clean Air Research Center, Harvard T.H. Chan School of Public Health, 2013

“Challenges of estimating the health impacts of extreme heat under global climate change.” P01 Environmental Statistics Retreat, Harvard T.H. Chan School of Public Health, 2013

“Integration and benchmarking of state-of-art convergence accelerators of the EM algorithm.” Topic contributed session: *Enhancing the EM Algorithm by Leveraging Modern Advances in Computing*. Joint Statistical Meetings, San Diego, CA, 2012

“Reduced Bayesian hierarchical models: Estimating health effects of simultaneous exposure to multiple pollutants.” Topic contributed session: *Statistical Challenges of Spatial Multi-Pollutant Data in Environmental Epidemiology*. ENAR Spring Meeting, Washington, DC, 2012

“Statistical analysis of multisite time series data for estimating health effects of environmental exposures.” Environmental Statistics Seminar, Harvard T.H. Chan School of Public Health, 2011

“Reduced Bayesian hierarchical models for high-dimensional, clustered data.” Poster, Statistical Methods for Very Large Datasets Conference, Baltimore, MD, 2011

“A Bayesian model averaging approach for estimating the relative risk of mortality associated with heat waves in 105 U.S. cities.”

Joint Statistical Meetings, Miami Beach, FL, 2011, recipient of Statistics in Epidemiology Young Investigator Award

Delta Omega Poster Competition, Johns Hopkins Bloomberg School of Public Health, 2011, awarded first place in Biostatistics Poster Competition

ENAR Spring Meeting, Miami, FL, 2011