

CURRICULUM VITAE

Rebecca A. Hubbard, PhD

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EDUCATION

1999 BS, Ecology & Evolution, Summa Cum Laude, University of Pittsburgh, Pittsburgh, PA
2001 MSc, Epidemiology, University of Edinburgh, Edinburgh, UK
2002 MSc, Applied Statistics, with Honors, Oxford University, Oxford, UK
2007 PhD, Biostatistics, University of Washington, Seattle, WA

ACADEMIC APPOINTMENTS

2009 – 2014 Affiliate Assistant Professor, Department of Biostatistics, University of Washington
2014 – 2017 Affiliate Associate Professor, Department of Biostatistics, University of Washington
2014 – 2020 Associate Professor, Department of Biostatistics, Epidemiology & Informatics, Perelman School of Medicine, University of Pennsylvania
2014 – Present Senior Scholar, Center for Clinical Epidemiology & Biostatistics, Perelman School of Medicine, University of Pennsylvania
2018 – Present Senior Fellow, Institute for Biomedical Informatics, Perelman School of Medicine, University of Pennsylvania
2020 – Present Professor, Department of Biostatistics, Epidemiology & Informatics, Perelman School of Medicine, University of Pennsylvania
2020 – Present Deputy Director, Division of Biostatistics, Department of Biostatistics, Epidemiology & Informatics, Perelman School of Medicine, University of Pennsylvania
2020 – Present Member, Abramson Cancer Center, Perelman School of Medicine, University of Pennsylvania

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EMPLOYMENT

2002 – 2007	Graduate Research Assistant, Department of Biostatistics, University of Washington
2007 – 2008	Senior Fellow, National Alzheimer’s Coordinating Center, University of Washington
2008 – 2013	Assistant Investigator, Group Health Research Institute
2013 – 2014	Associate Investigator, Group Health Research Institute

AWARDS AND HONORS

1999	Phi Beta Kappa
2000 – 2002	Marshall Scholar
2004	Donovan J. Thompson Award, University of Washington Department of Biostatistics
2006 – 2007	Magnuson Scholar, University of Washington School of Public Health
2007	Outstanding Student Award, University of Washington Department of Biostatistics
2007	Best Oral Presentation, Western North American Region (WNAR) of the International Biometric Society Student Paper Competition, Irvine, CA
2007	Best Paper, Western North American Region (WNAR) of the International Biometric Society Student Paper Competition, Irvine, CA
2008	David P. Byar Young Investigator Award, Biometrics Section of the American Statistical Association, Joint Statistical Meetings, Denver, CO
2011	NCI Epidemiology and Genomics Research Program Top Publication for Hubbard RA, et al. 2011. The cumulative risk of a false-positive recall or biopsy recommendation after 10 years of screening mammography: a cohort study. <i>Annals of Internal Medicine</i> . 155: 481-492.
2019	Penn Fellow, University of Pennsylvania
2019	Fellow, American Statistical Association
2019	Excellence in Teaching Award, Master of Science in Health Policy Research Program, University of Pennsylvania
2019	Samuel L Martin Health Evaluation Sciences Award, University of Pennsylvania
2020	American Statistical Association Health Policy Statistics Section Mid-Career Award

PROFESSIONAL ORGANIZATIONS

2005 – Present	Member, American Statistical Association
2005 – Present	Member, International Biometric Society

PROFESSIONAL ACTIVITIES

International

- Reviewer Dutch Cancer Society, 2012, 2015
Netherlands Organisation for Scientific Research, 2015, 2019
Canadian Institute for Health Research SPOR Innovative Clinical Trials, 2017, 2019
French National Cancer Institute, 2018
- Conferences Scientific Organizing Committee, International Conference on Health Policy Statistics, 2018
- Editorial Editorial Advisory Committee, International Biometric Society, 2018 – Present

National

- Leadership Chair and Head Judge, Section on Physical and Quantitative Sciences, Annual Biomedical Research Conference for Minority Students, 2010 – 2012
Chair-elect (2017), Chair (2018), Past Chair (2019), American Statistical Association Biometrics Section
Council of Sections Representative to the Board of Directors, American Statistical Association, 2020 – 2022
- Reviewer NIH Resource Centers for Minority Aging Research Special Emphasis Panel, 2012
Cancer Research Network Research Scholars Program, 2014
PCORI Assessment of Prevention, Treatment, and Diagnosis Options panel, 2014
NIH Health Services Organization and Delivery Study Section *Ad Hoc Reviewer*, 2014, 2016, 2018
NIH Healthcare Delivery and Methodologies Member Conflicts Special Emphasis Panel, 2015 – 2017
NIH Health Services Research on Minority Health and Health Disparities Special Emphasis Panel, 2016
PCORI Improving Methods for Conducting PCOR Review Panel, 2018
NCI Clinical and Translational Exploratory/Developmental Studies Special Emphasis Panel, 2018
NCI Biostatistics Branch Site Visit Team, 2018
NIH Biomedical Computing and Health Informatics Member Conflicts Special Emphasis Panel, 2019
NIH Community Influences on Health Behavior Study Section *Ad Hoc Reviewer*, 2020
- Conferences Program committee, JSM (WNAR representative), 2010 – 2011
Program committee, JSM (Biometrics section representative), 2013 – 2015

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	Program committee, ENAR (ASA Health Policy Statistics Section Representative), 2018
Committees	<p>Panelist, NIH Pathways to Prevention: Total Worker Health, 2015</p> <p>Byar Award Selection Committee, American Statistical Association Biometrics Section 2015 – 2019</p> <p>Committee on Care Interventions for Individuals with Dementia and Their Caregivers, National Academy of Medicine, 2018</p> <p>JSM Diversity Mentoring Program, American Statistical Association, 2018 – Present</p> <p>Elizabeth L. Scott Award Selection Committee, Committee of Presidents of Statistical Societies, 2019 – Present</p> <p>Committee on Scientific Freedom and Human Rights, American Statistical Association, 2019 – Present</p>
DSMB	Systematic Multidomain Alzheimer's Risk Reduction Trial, 2018 – Present
Editorial	<p>Associate Editor, Pharmacoepidemiology & Drug Safety, 2017 – Present</p> <p>Editorial Board, Journal of Clinical Oncology 2020 – Present</p> <p>Associate Editor, Observational Studies, 2021 – Present</p>
Ad hoc reviewer	<p>Academic Radiology (2011 – 2014); Alzheimer's & Dementia (2016); American Journal of Epidemiology (2012 – Present); American Journal of Managed Care (2014 – Present); Annals of Applied Statistics (2016 – Present); Annals of Internal Medicine (2013 – Present); Biometrics (2019 - Present); BMC Health Services Research (2015 – Present); BMC Medical Research Methodology (2014 – Present); BMJ (2012 – Present); BMJopen (2016 – Present); Bayesian Analysis (2017 – Present); Cancer Epidemiology (2011 – Present); Cancer Epidemiology, Biomarkers & Prevention (2011 – Present); Clinical Trials (2015 – Present); Communications in Statistics - Simulation and Computation (2015 – Present); Computational Statistics & Data Analysis (2015 – Present); Health Services Outcomes and Research Methodology (2014 – Present); JAMA (2013 – Present); JAMA Oncology (2019 – Present); Journal of the American Statistical Association (2011 – Present); Journal of Applied Statistics (2013 – Present); Journal of Clinical Oncology (2013 – Present); Journal of Dental Research (2009 – Present); Journal of General Internal Medicine (2012 – Present); Journal of Medical Screening (2016 – Present); Journal of the National Cancer Institute (2013 – Present); Journal of the Royal Statistical Society, Series C (2018); Nature Medicine (2019 – Present); New England Journal of Medicine (2013); Pharmacoepidemiology & Drug Safety (2014 – Present); PLOS One (2013 – Present); Preventive Medicine (2017 – Present); Statistics in Medicine (2009 – Present); Statistical Methods in Medical Research (2009)</p>

University of Pennsylvania

Leadership	Diversity Search Advisor, Biostatistics Division, Department of Biostatistics, Epidemiology & Informatics, 2016-Present
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Chair, Academic Advising & Review Committee, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, 2017-2020

Executive Committee, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, 2018-Present

Leadership Advisory Council, Department of Biostatistics, Epidemiology & Informatics, 2019-Present

Chair, Faculty Recruitment Committee, Biostatistics Division, Department of Biostatistics, Epidemiology & Informatics, 2019-Present

Committees

Admissions Committee, Biostatistics Division, Graduate Group in Epidemiology & Biostatistics, 2015-2017

Examinations Committee, Biostatistics Division, Graduate Group in Epidemiology & Biostatistics, 2016-2018

Awards Committee, Department of Biostatistics & Epidemiology, 2016-2018

Faculty Recruitment Committee, Biostatistics Division, Department of Biostatistics, Epidemiology & Informatics, 2016-2019

Biostatistics Division Director Recruitment Committee, Biostatistics Division, Department of Biostatistics & Epidemiology, 2017-2019

Vice Provost for Education's Fellowship Selection Committee, 2018-Present

Combatting Racial Inequities Committee, Biomedical Graduate Studies, Perelman School of Medicine, 2020-Present

University of Washington

Leadership

Chair, Affiliate and Adjunct Faculty Committee, Department of Biostatistics, 2009-2012

Chair, Applied Statistics Qualifying Exam Committee, Department of Biostatistics, 2013-2014

Committees

Applied Statistics Qualifying Exam Committee, Department of Biostatistics, 2012

Distinguished Alumni Selection Committee, School of Public Health, 2012-2014

Admissions Committee, Department of Biostatistics, 2013

Group Health Research Institute

Leadership

Chair, Scientific Policy Committee, 2010-2012

Committees

New faculty Orientation Committee, 2009

Data Governance Council, 2012-2014

Scientific Policy Committee, 2013-2014

TEACHING ACTIVITIES

Courses

BIOST 571: Statistical Methodology: Regression Models for Dependent Data, Department of Biostatistics, University of Washington, Graduate Teaching

Assistant, Winter 2005.

BIOST 511: Medical Biometry I, Department of Biostatistics, University of Washington, Graduate Teaching Assistant, Summer 2006, Summer 2007.

Linear Regression and ANOVA, Summer Institute in Statistical Genetics. Department of Biostatistics, University of Washington, Course Director, Summer 2009 – Summer 2020.

BIOST 579: Data Analysis and Report Writing, Department of Biostatistics, University of Washington, Course Director, Spring 2011, Summer 2013.

HPR 608: Applied Regression Analysis for Health Policy Research, Division of General Internal Medicine, Perelman School of Medicine, University of Pennsylvania, Course Director, Spring 2016, Spring 2018, Spring 2019.

EPID 600: Data Science for Biomedical Informatics, Department of Biostatistics & Epidemiology, Perelman School of Medicine, University of Pennsylvania, Guest Lecturer, Fall 2016, Fall 2017, Fall 2018.

Introduction to Grant Writing, Graduate Group in Epidemiology & Biostatistics, Perelman School of Medicine, University of Pennsylvania, Course Director, Summer 2017, Summer 2018, Fall 2019.

Bayesian Methods for Clinical Research - Introduction, Summer Institute in Statistics for Clinical Research. Department of Biostatistics, University of Washington, Course Director, July 2017.

Bayesian Methods for Clinical Research - Computation and Applications, Summer Institute in Statistics for Clinical Research. Department of Biostatistics, University of Washington, Course Director, July 2017.

Biostatistical Concepts in Pharmacoepidemiology: Linear and Logistic Regression, Food and Drug Administration, Instructor, December 2016, December 2018, December 2019, December 2020.

Practical Solutions for Working with Electronic Health Records Data, ENAR Short Course, March 2020.

Analysis of Big Healthcare Databases, ASA Council of Chapters Traveling Short Course, Instructor, ASA Nebraska Chapter April 2019, ASA Princeton/Trenton Chapter September 2019, ASA Connecticut Chapter October 2019, ASA Twin Cities Chapter October 2019, ASA San Francisco Chapter November 2019, University of California Davis November 2019, ASA Kentucky Chapter October 2020, ASA Cincinnati Chapter October 2020, ASA Philadelphia Chapter November 2020, ASA Houston Area Chapter December 2020.

BSTA 660: Design of Observational Studies, Department of Biostatistics, Epidemiology & Informatics, Perelman School of Medicine, University of Pennsylvania, Course Director, Spring 2018, Fall 2019, Fall 2020.

MS Students

Victoria Ding, 2011 – 2012, Chair, Department of Biostatistics, University of Washington.

Jian Hu, 2017 – 2018, Chair, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

	Joanna Harton, 2017 – 2018, Chair, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania
PhD Students	Amy Laird, 2010 – 2013, Member PhD committee, Department of Biostatistics, University of Washington.
	Jane Lange, 2011 – 2014, Member PhD committee, Department of Biostatistics, University of Washington.
	Greg Calip, 2013 – 2014, Member PhD committee, Department of Epidemiology, University of Washington.
	Willa Brenowitz, 2013 – 2016, Member PhD committee, Department of Epidemiology, University of Washington.
	Lu Chen, 2015, Member PhD committee, Department of Biostatistics & Epidemiology, University of Pennsylvania
	Lu Wang, 2016 – 2019, Chair PhD committee, Department of Biostatistics & Epidemiology, University of Pennsylvania
	Darcy Ellis, 2016 – Present, Member PhD committee, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania
	Marzieh Golmakani, 2017 – 2019, Member PhD committee, Department of Public Health Sciences, UC Davis
	Lingjiao Zhang, 2018 – 2020, Member PhD committee, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania
	Sondra Lavigne, 2018 – 2020, Chair PhD committee, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania
	Sherrie Xie, 2018 – Present, Member PhD committee, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania
	Joanna Harton, 2018 – Present, PhD Co-Supervisor (with Nandita Mitra), Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania
	Arielle Anglin, 2020 – Present, Chair PhD committee, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania
	Kylie Getz, 2020 – Present, PhD Co-Supervisor (with Kristin Linn), Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania
Post-doctoral	Yue Zhang, 2012 – 2013, Post-doctoral fellowship supervisor, Group Health Research Institute
	Jane Lange, 2014, Post-doctoral fellowship supervisor, Group Health Research Institute
	Noah Hoffman, 2015 – 2016, MSHP Biostatistics advisor, Department of Biostatistics & Epidemiology, University of Pennsylvania
	Therese Bittermann, 2015 – 2017, MSCE Biostatistics advisor, Department of Biostatistics & Epidemiology, University of Pennsylvania
	Gary Weissman, 2016 – 2017, MSHP Biostatistics advisor, Department of Biostatistics & Epidemiology, University of Pennsylvania

Juan Lado, 2016 – 2017, MSHP Biostatistics advisor, Department of Biostatistics & Epidemiology, University of Pennsylvania

Krisda Chaiyachati, 2016 – 2018, MSHP Biostatistics advisor, Department of Biostatistics & Epidemiology, University of Pennsylvania

Megan Noe, 2015 – 2018, MSCE Biostatistics advisor, Department of Biostatistics & Epidemiology, University of Pennsylvania

Sherif Elhanafi, 2016 – 2018, MSCE Biostatistics advisor, Department of Biostatistics & Epidemiology, University of Pennsylvania

Whitney Cabey, 2016 – 2018, MSHP Biostatistics advisor, Department of Biostatistics & Epidemiology, University of Pennsylvania

Joanna Rhodes, 2018 – 2019, MSCE Biostatistics advisor, Department of Biostatistics, Epidemiology & Informatics, University of Pennsylvania

Nadim Mahmud, 2018 – 2019, MSCE Biostatistics advisor, Department of Biostatistics, Epidemiology & Informatics, University of Pennsylvania

Natasha Vedage, 2018 – 2020, MSCE Biostatistics advisor, Department of Biostatistics, Epidemiology & Informatics, University of Pennsylvania

Lova Sun, 2019 – Present, MSCE Biostatistics advisor, Department of Biostatistics, Epidemiology & Informatics, University of Pennsylvania

Shun Yu, 2019 – Present, MSCE Biostatistics advisor, Department of Biostatistics, Epidemiology & Informatics, University of Pennsylvania

Mohsin Shah, 2019 – Present, MSCE Biostatistics advisor, Department of Biostatistics, Epidemiology & Informatics, University of Pennsylvania

Daniel Vader, 2020 – Present, Post-doctoral fellowship supervisor, Department of Biostatistics, Epidemiology & Informatics, University of Pennsylvania

Other advising

Elisa Sheng, 2009 – 2013, Academic advisor, Department of Biostatistics, University of Washington.

Dana Canfield, 2010, Summer undergraduate internship supervisor, Group Health Research Institute.

Willa Brenowitz, 2011, Summer MPH practicum supervisor, Department of Health Services, University of Washington.

David Benkeser, 2014, Graduate research assistantship supervisor, Department of Biostatistics, University of Washington.

LaNae Schaal, 2014, Summer independent study supervisor, Department of Biostatistics, University of Washington.

Le Wang, 2015, Biostatistics in Practice II supervisor, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

Carrie Caswell, Fall 2015, Lab rotation supervisor, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

Carrie Caswell, 2015 – 2016, Academic advisor, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

Rui Duan, 2016, Biostatistics in Practice II supervisor, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

Grace Choi, Fall 2016, Lab rotation supervisor, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

Joanna Milton, Fall 2016, Lab rotation supervisor, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

Arman Oganisian, Spring 2016, Lab rotation supervisor, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

Victoria Arthur, 2016 – 2017, Academic advisor, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

Grace Choi, Summer 2017, Lab rotation supervisor, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

Carolyn Lou, Spring 2018, Lab rotation supervisor, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

Lanair Lett, Spring 2019, Fall 2019, Lab rotation supervisor, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

Emily Getzen, 2019 – Present, Academic advisor, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

Kylie Getz, Spring 2020, Summer 2020, Lab rotation supervisor, Biostatistics Program, Graduate Group in Epidemiology & Biostatistics, University of Pennsylvania

Jevaughn Henry, Summer 2020, Mentor, American Physician Scientist Association Virtual Summer Research Program

PUBLICATIONS and PRESENTATIONS

Publications

Peer-Reviewed Papers

**Denotes student supervised by Dr. Hubbard*

†Denotes equal contribution

1. Cagle AJ and **Hubbard RA**. 2005. Cold-related cardiac mortality in King County, WA, USA, 1980-2001. *Annals of Human Biology*, 32(4): 525 - 537.
2. Sullivan J, **Hubbard RA**, Shepherd K, Trenga C, Liu L-JS, Koenig JQ, Chandler WL, Kaufman J. 2007. Effect of particulate matter on blood measures of inflammation and thrombosis in an elderly population. *BMC Environmental Health*. 6:3.
3. **Hubbard RA**, Inoue LYT, Fann JR. 2008. Modeling non-homogeneous Markov processes via time transformation. *Biometrics*. 64(3): 843 - 850.
4. **Hubbard RA**, Inoue LYT, Diehr P. 2009. Joint modeling of self-rated health and functional status. *Journal of the American Statistical Association*. 104(487): 873-885. PMID:PMC2819480
5. **Hubbard RA**, Miglioretti DL, Smith RA. 2010. Modelling the cumulative risk of a false-positive screening test. *Statistical Methods in Medical Research*. 19: 429-449. PMID: PMC2916076

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6. Burn A, Herring S, **Hubbard RA**, Rafferty K, Duncan K, Lieberman D. 2010. Dietary consistency and midline sutures: A study in growing pigs. *Orthodontics & Craniofacial Research*. 13: 106 - 113.
7. Horne DJ, **Hubbard RA**, Narita M, Exarchos A, Park DR, Goss CH. 2010. Factors associated with mortality in patients with tuberculosis. *BMC Infectious Diseases*. 10:258.
8. Gill DP, Koepsell TD, **Hubbard RA**, Kukull WA. 2011. Risk of decline in functional activities in dementia with Lewy bodies and Alzheimer disease. *Alzheimer's Disease and Associated Disorders*. 25(1):17-23.
9. Fann JR, **Hubbard RA**, Alfano C, Roth-Roemer, S, Katon WJ, Syrjala KL. 2011. Pre - and post-transplantation risk factors for delirium onset and severity in patients undergoing hematopoietic stem cell transplantation. *Journal of Clinical Oncology*. 29(7): 895-901. PMID: PMC3068062.
10. **Hubbard RA** and Zhou XH. 2011. A non-homogeneous Markov regression model for mild cognitive impairment and Alzheimer's disease progression. *Journal of Applied Statistics*. 38(10): 2313-2326. PMID: PMC3299197.
11. Scholes D, **Hubbard RA**, Ichikawa L, LaCroix A, Spangler L, Beasley J, Reed S, Ott S. 2011. Oral contraceptive use and bone density change in adolescent and young adult women: a prospective study of age, hormone dose, and discontinuation. *Journal of Clinical Endocrinology & Metabolism*. 96(9):E1380-E1387.
12. Simon GE, Ding V, **Hubbard RA**, Fishman P, Ludman E, Morales L, Operskalski B, Savarino J. 2011. Early dropout from psychotherapy for depression with group- and network-model therapists. *Administration and Policy in Mental Health and Mental Health Services Research*. 39(6): 440-447. PMID: PMC3708590
13. **Hubbard RA**, Kerlikowske K, Flowers C, Yankaskas B, Zhu W, Miglioretti DL. 2011. The cumulative risk of a false-positive recall or biopsy recommendation after 10 years of screening mammography: a cohort study. *Annals of Internal Medicine*. 155: 481-492.
14. Kerlikowske K, **Hubbard RA**, Miglioretti D, Geller BM, Yankaskas BC, Lehman C, Taplin S, Sickles EA. 2011. Comparative effectiveness of digital versus film-screen mammography in community practice in the United States: a cohort study. *Annals of Internal Medicine*. 155: 493-502.
15. Fishman P, Ding V, **Hubbard RA**, Ludman E, Morales L, Operskalski B, Pabiniak C, Stewart C, Savarino J, Simon GE. 2012. Impact of cost sharing on initiation and continuation of psychotherapy for treatment of depression. *Health Services Research*. 47(4): 1561-1579. PMID: PMC3371095.
16. Chubak J, Anderson ML, Saunders KW, **Hubbard RA**, Tuzzio L, Liss D, Morales LS, Reid RJ. 2012. Predictors of one-year change in patient activation among older adults with diabetes and heart disease. *Journal of the American Geriatric Society*. 60(7):1316-21.
17. Chaudhari M, **Hubbard RA**, Inge R, Reid RJ, Newton KM, Spangler L, Barlow WE. 2012. Evaluating components of dental utilization among adults with diabetes and matched controls via hurdle models. *BMC Oral Health*. 12: 20.
18. Fenton JJ, Zhu W, Balch S, Smith-Bindman R, Lindfors K, **Hubbard RA**. 2012. External validation of Medicare claims codes for digital mammography and computer-aided detection. *Cancer Epidemiology, Biomarkers & Prevention*. 21(8): 1344-1347.
19. Yasmeen S, **Hubbard RA**, Miglioretti DM, Zhu W, Kerlikowske K, Geller BM, Onega T, Yankaskas BC, Romano P. 2012. Mammography use and breast cancer rates among older women with comorbidities. *Cancer Epidemiology, Biomarkers & Prevention*. 12(9):1510-1519.
20. **Hubbard RA**, Zhu W, Onega T, Fishman P, Henderson LM, Tosteson ANA, Buist D. 2012. Effects of digital mammography uptake on downstream breast-related care among older women. *Medical Care*. 50(12): 1053-1059.

21. Henderson LM, **Hubbard RA**, Onega T, Zhu W, Buist D, Fishman P, Tosteson ANA. 2012. Assessing healthcare use and cost consequences of a new screening modality: the case of digital mammography. *Medical Care*. 50(12): 1045-1052.
22. Imel ZE, **Hubbard RA**, Rutter C, Simon GE. 2012. Patient rated alliance as a measure of therapist performance in two clinical settings. *Journal of Consulting and Clinical Psychology*. 81(1):154-165.
23. Simon G, Peterson D, **Hubbard RA**. 2013. Is treatment adherence consistent across time, across treatments, and across diagnoses? *General Hospital Psychiatry*. 35(2):195-201. PMID: PMC3594411
24. *Ding VY, **Hubbard RA**, Rutter CM, Simon GE. 2013. Assessing the accuracy of profiling methods for identifying top providers: performance of mental health care providers. *Health Services and Outcomes Research Methodology*. 13(1): 1-17.
25. **Hubbard RA**, Miglioretti DL. 2013. A semi-parametric censoring bias model for estimating the cumulative risk of a false-positive screening test under dependent censoring. *Biometrics*. 69(1):245-53.
26. Goldman LE, Walker R, **Hubbard RA**, and Kerlikowske K. 2013. Timeliness of evaluation and loss to follow-up after abnormal mammography at mammography facilities serving vulnerable women. *Medical Care*. 51(4): 307-314.
27. Braithwaite D, Zhu W, **Hubbard RA**, O'Meara ES, Miglioretti DL, Geller B, Dittus K, Moore D, Wernli K, Mandelblatt J, Kerlikowske K for the BCSC. 2013. Screening outcomes in older U.S. women undergoing multiple mammograms in community practice: does interval, age or comorbidity score affect tumor characteristics or false positive rates? *Journal of the National Cancer Institute*. 105(5): 334-341.
28. Kerlikowske K, Zhu W, **Hubbard RA**, Geller B, Dittus K, Braithwaite D, Wernli K, Miglioretti DL, O'Meara ES. 2013. Outcomes of screening mammography by frequency, breast density, and postmenopausal hormone therapy. *JAMA Internal Medicine*. 173(9): 807-816.
29. **Hubbard RA**, Zhu W, Horbyluk R, Karliner L, Sprague B, Henderson L, Lee D, Onega T, Buist DSM, Sweet A. 2013. Timeliness and use of diagnostic imaging and biopsy following abnormal digital and film screening mammography. *Breast Cancer Research and Treatment*. 138(3):879-87.
30. Crane PK, Walker R, **Hubbard RA**, Li G, Nathan DM, Zheng H, Haneuse S, Craft S, Montine TJ, Kahn S, McCormick W, McCurry S, Bowen JD, Larson EB. 2013. Elevated glucose levels among those with and without diabetes as a risk factor for dementia: the Adult Changes in Thought Study. *New England Journal of Medicine*. 369(6):540-548.
31. Gray SL, Anderson ML, **Hubbard RA**, LaCroix A, Crane PK, Teri L, Bowen JD, McCormick W, McCurry SM, Larson, EB. 2013. Frailty and incident dementia in an older cohort. *Journal of Gerontology*. 68(9):1083-1090.
32. **Hubbard RA**, Johnson E, Hsia R, Rutter C. 2013. The cumulative risk of false-positive fecal occult blood test after 10 years of screening. *Cancer Epidemiology, Biomarkers & Prevention*. 22(9):1612-9.
33. Dittus K, Geller B, Weaver D, Kerlikowske K, Zhu W, **Hubbard RA**, Braithwaite D, O'Meara ES, Miglioretti DL. 2013. Impact of mammography screening interval on breast cancer characteristics of women with different body mass index. *Journal of General Internal Medicine*. 28(11):1454-62.
34. O'Meara ES, Zhu W, **Hubbard RA**, Braithwaite D, Kerlikowske K, Dittus K, Geller B, Wernli K, and Miglioretti D. 2013. Mammographic screening interval in relation to tumor characteristics and false-positive risk by race/ethnicity and age. *Cancer*. 119(22): 3959-3967.

35. Gill DP, **Hubbard RA**, Koepsell TD, Borrie MJ, Petrella RJ, Knopman DS, Kukull WA. 2013. Differences in rate of functional decline across three dementia types. *Alzheimer's & Dementia*. 9(5): S63-S71.
36. Roman M, **Hubbard RA**, Sebuodegard S, Miglioretti DL, Castells X, Hofvind S. 2013. The cumulative risk of false positive results in the Norwegian Breast Cancer Screening Program: updated results. *Cancer*. 119(22), 3952-3958.
37. Dublin S, Anderson ML, Heckbert SR, **Hubbard RA**, Sonnen JA, Crane PK, Montine TJ, Larson EB. 2013. Neuropathologic changes associated with atrial fibrillation in a population-based autopsy cohort. *Journal of Gerontology, Series A: Biological Sciences/Medical Sciences*. [Epub ahead of print] doi:10.1093/gerona/glt141
38. Fenton J, Zhu W, Balch S, Smith-Bindman R, Lindfors K, Fishman P, **Hubbard RA**. 2014. Distinguishing screening from diagnostic mammograms using Medicare claims data. *Medical Care*. 52(7):e44-e51.
39. Stout NK, Lee SJ, Schechter CB, Alagoz O, Berry D, Buist DSM, Cevik M, Chisholm G, de Koning HJ, Huang H, **Hubbard RA**, Kerlikowske K, Munsell M, Tosteson ANA, Trentham-Dietz A, van Ravesteyn NT, Miglioretti DL, Mandelblatt JS. 2014. Benefits, harms, and costs for breast cancer screening after US implementation of digital mammography. *Journal of the National Cancer Institute*. 106(6): dju092.
40. Henrikson NB, Anderson ML, **Hubbard RA**, Fishman P, Grossman D. 2014. Employee knowledge of value-based insurance design benefits. *American Journal of Preventive Medicine*. 47(2): 115-122.
41. Onega T, Weiss J, Goodrich M, Alford-Teaster J, Kerlikowske K, Buist DSM, Henderson LM, Wernli K, Virnig B, Tosteson ANA, DeMartini W, **Hubbard RA**. 2014. The influence of race/ethnicity and place of service on breast reconstruction for Medicare beneficiaries with mastectomy. *SpringerPlus*. 3(1): 1-9.
42. *Brenowitz WD, **Hubbard RA**, Crane PK, Gray SL, Zaslavsky O, Larson EB. 2014 Relationships between self-rated health and performance-based physical functioning in older adults: A population-based cohort study. *PLOS One*. 9(11):e111761.
43. Calip GS, Malone KE, Gralow JR, Stergachis A, **Hubbard RA**, Boudreau DM. 2014. Metabolic syndrome and outcomes in early stage breast cancer. *Breast Cancer Research & Treatment*. 148:363-377.
44. **Hubbard RA**, Chubak J, Rutter CM. 2014. Estimating screening test utilization using electronic health records data. *eGEMs (Generating Evidence & Methods to improve patient outcomes)*. 2(1):14. PMID: PMC4346157
45. Etzioni R, Xia J, **Hubbard RA**, Weiss N, Gulati R. 2014. A reality check for overdiagnosis estimates associated with breast cancer screening. *Journal of the National Cancer Institute*. 106(12): dju315.
46. Onega T, **Hubbard RA**, Hill D, Lee C, Haas J, Carlos HA, Alford-Teaster J, Bogart A, DeMartini W, Kerlikowske K, Virnig B, Buist D, Henderson L, Tosteson A. 2014. Geographic access to breast imaging for U.S. women. *Journal of the American College of Radiology*. 11(9): 874-882.
47. Wernli K, **Hubbard RA**, Johnson E, Chubak J, Kamineni A, Green BB, Rutter CM. 2014. Patterns of colorectal cancer screening uptake in newly-eligible men and women. *Cancer Epidemiology, Biomarkers & Prevention*. 23(7): 1230-1237.
48. Chubak J, **Hubbard RA**, Johnson E, Kamineni A, Rutter C. 2015. Assessing the effectiveness of a cancer screening test in the presence of another screening modality. *Journal of Medical Screening*. 22(2): 69-75.

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152. Sobrin L, Yu Y, Han S, Susarla G, Kempen JH, **Hubbard RA**, VanderBeek BL. 2020. Risk of non-infectious uveitis with metformin therapy in a large healthcare claims database. *Ocular Immunology and Inflammation*. *In press*.
153. Sun L, Parikh RB, **Hubbard RA**, Cashy J, Takvorian SU, Vaughn DJ, Robinson KW, Narayan V, Ky B. 2021. Assessment and management of cardiovascular risk factors among US Veterans with prostate cancer initiating androgen deprivation therapy. *JAMA Network Open*. *In press*.
154. Sobrin L, Yu Y, Han S, Susarla G, Kempen JH, **Hubbard RA**, VanderBeek BL. Angiotensin converting enzyme-inhibitors and incidence of non-infectious uveitis in a large healthcare claims database. *Ophthalmic Epidemiology*. *In press*.

Book Chapters

1. Laird AE, **Hubbard RA**, Inoue LYT. 2015. Multi-state models for disease natural history. In: *Current Trends in Bayesian Methodology with Applications*. Chapman & Hall.
2. Broeders MJM, Ripping TM, **Hubbard RA**. 2016. Weighing the benefits and harms: Screening mammography in the balance. In: *Breast Cancer Screening*. Elsevier.
3. **Hubbard RA**, Harton J, Zhu W, Wang L, Chubak J. 2017. Methods for time to event analyses using imperfect electronic health records-derived endpoints. In: *New Advances in Statistics and Data Science*. Springer.

Other non-peer-reviewed scholarly publications

1. **Hubbard RA**. 2011. [Letter] RE: Modelling the cumulative risk of a false-positive screening test. *Statistical Methods in Medical Research*. 20(3):293-5
2. **Hubbard RA**, Kerlikowske K, Buist D, Yankaskas BC, for the Breast Cancer Surveillance Consortium. 2011. [Letter] Evaluation of breast cancer screening strategies must be based on comparisons of harms and benefits. *American Journal of Roentgenology*. 197:W793.
3. Kerlikowske K, **Hubbard RA**. 2011. [Letter] Comparative effectiveness of digital versus film-screen mammography. *Annals of Internal Medicine*. 156: 251.
4. Kerlikowske K, **Hubbard RA**, Tosteson ANA. 2014. [Letter] Higher mammography screening costs without appreciable clinical benefit: the case of digital mammography. *Journal of the National Cancer Institute*. 106(4): dju191.

5. **Hubbard RA.** 2015. [Invited commentary] US counties with higher rates of breast cancer screening have higher rates of breast cancer incidence with no concomitant decrease in breast cancer mortality. *BMJ Evidence Based Medicine.* 20(6): 201.
6. Miglioretti DL, Lange J, van Ravesteyn N, van den Broek JJ, Lee CI, Melnikow J, Kerlikowske K, Ritley D, de Koning HJ, **Hubbard RA.** 2015. [Report] Radiation-induced breast cancer and breast cancer death from mammography screening. Rockville, MD: Agency for Healthcare Research and Quality. AHRQ Publication No. 14-05201-EF-5. Available at: <http://www.uspreventiveservicestaskforce.org/Page/Document/modeling-report-radiation-induced-breast-cancer-and-breast-c/breast-cancer-screening1>
7. Gray SL, Anderson M, **Hubbard R.** 2015. [Letter] Anticholinergic use with incident dementia-reply. *JAMA Intern Med.* 175(9):1577. doi: 10.1001/jamainternmed.2015.2574.
8. Bradley CJ, Grossman DC, **Hubbard RA,** Ortega AN, Curry SJ. 2016. [Invited commentary] National Institutes of Health Pathways to Prevention Workshop: Integrated Interventions for Improving Total Worker Health®. *Annals of Internal Medicine.* 165(4):279-83.
9. Moore JH, Barnett I, Boland MR, Chen Y, Demiris G, Gonzalez-Hernandez G, Herman DS, Himes BE, **Hubbard RA,** Kim D, Mowery DL, Ritchie MD, Shen L, Urbanowicz R, Holmes JH. 2020. [Editorial] Ideas for how informaticians can get involved with COVID-19 research. *BioData Mining. In press.*
10. **Hubbard RA.** 2020. [Invited commentary] Commentary on Professor Austin Bradford Hill's Alfred Watson Memorial Lecture. *Statistics in Medicine. In press.*
11. VanderBeek BL, **Hubbard RA,** Ying GS. 2020. [Letter] RE: Insights from survival analyses during 12 years of anti-vascular endothelial growth factor therapy for neovascular age-related macular degeneration. *JAMA Ophthalmology. In press.*

Invited Presentations

1. National Alzheimer's Coordinating Center, Seattle, WA, February 2007. Modeling Delirium Progression Using a Non-homogeneous Markov Process.
2. Department of Biostatistics, University of Washington, December 2007. Modeling Delirium and Dementia Using a Non-homogeneous Markov Process.
3. Fred Hutchinson Cancer Research Center, Seattle, WA, September 2008. Joint Modeling of Self-rated Health and Changes in Physical Functioning.
4. WNAR International Biometric Society, Seattle, WA, June 2010. Comparing the Risks of Alternative Breast Cancer Screening Guidelines.
5. WNAR International Biometric Society, San Luis Obispo, CA. June 2011. Measures of the Harms of Repeat Cancer Screening for Use in Health Policy Decision Making.
6. Annual Biomedical Research Conference for Minority Students, St Louis, MO. November 2011. Evaluating the Harms of Repeat Cancer Screening for Use in Health Policy Decision Making.
7. Joint Statistical Meetings, San Diego, CA, July 2012. Classification Accuracy in Identifying Top-performing Providers: An Application to Mental Health Care.
8. Fred Hutchinson Cancer Research Center, Seattle, WA, November 2012. A Comparison of Statistical Methods for Estimating the Cumulative False-positive Risk of a Cancer Screening Program.
9. Department of Psychiatry and Behavioral Sciences, University of Washington, Seattle, WA, February 2013. Markov Processes and Multi-State Models.
10. American Association for Cancer Research, San Diego, CA. April 2014. Statistical Challenges and Opportunities in the Analysis of Data from Electronic Medical Records.

11. Joint Applied Statistics Symposium of the International Chinese Statistical Association & Korean International Statistical Society, Portland, OR. June 2014. Estimating Screening Test Effectiveness when Indication for Examination is Unknown.
12. First Seattle Symposium on Health Care Data Analytics, Seattle, WA. September 2014. Statistical Methods for Misclassified Outcomes and Exposures in Data from Electronic Medical Records.
13. Department of Public Health Sciences, University of California, Davis, CA. March 2015. Sources of Variability and Error in Ranking and Classification of Healthcare Providers.
14. Institute of Medicine National Cancer Policy Forum, Washington, DC. May 2015. Provider Profiling Approaches to Identifying Radiologists Meeting Targets for Screening Mammography Interpretive Performance.
15. AcademyHealth, Minneapolis, MN. June 2015. Outcome Misclassification in Analyses of EHR Data.
16. Department of Radiology, University of Pennsylvania, Philadelphia, PA. June 2015. Provider Profiling in the Setting of Screening Mammography Interpretive Performance.
17. Precision Cancer Screening in the General Population: Evidence, Epidemiology, and Next Steps, Rockville, MD, September 2015. Population-based Precision Breast Cancer Screening: A Review of the Evidence.
18. ENAR International Biometric Society, Austin, TX. March 2016. Methods for Misclassified Time to Event Outcomes in Studies Using EHR-Derived Endpoints.
19. Department of Statistics and Actuarial Science, University of Waterloo, Waterloo, Ontario, Canada. May 2016. Statistical Considerations for Studying the Cancer Care Continuum Using EHR Data.
20. International Chinese Statistical Association Applied Statistics Symposium, Atlanta, GA. June 2016. Accounting for Error and Misclassification in Time to Event Analyses Using EHR-derived Endpoints.
21. Department of Biostatistics, University of Pittsburgh, Pittsburgh, PA. March 2017. Lessons Learned in the Study of Cancer Care Using EHR Data.
22. ENAR International Biometric Society, Washington, DC. March 2017. A Bayesian Latent Variables Approach to EHR-based Phenotyping.
23. Joint Statistical Meetings, Baltimore, MD. August 2017. Harnessing Diverse Data from a Healthcare Systems Network for Early Identification of Pediatric Diabetes.
24. ACT Research Symposium, Kaiser Permanente Washington Health Research Institute, Seattle, WA. August 2017. Realizing the Potential (and Avoiding the Pitfalls) of EHR Data Linked to Longitudinal Cohort Data on Aging.
25. Department of Biostatistics, University of Michigan, Ann Arbor, MI. October 2017. Development and Analysis of EHR-derived Phenotypes.
26. Center for Cancer Biostatistics, University of Michigan Cancer Center, Ann Arbor, MI. October 2017. Challenges and Opportunities for Research on the Cancer Care Continuum Using EHR Data.
27. Memorial Sloan Kettering Cancer Center, New York, NY. November 2017. Statistical Approaches to the Study of Cancer Screening and Diagnosis Using EHR Data.
28. ENAR International Biometric Society, Atlanta, GA. March 2018. Accounting for Informative Presence Bias and Lack of Portability in EHR-derived Phenotypes.
29. Joint Statistical Meetings, Vancouver, BC, August 2018. Perils and Possibilities of EHR Data Linked to Population Disease Registries: The Example of Cancer Registry Linkage.
30. Seattle Symposium for Healthcare Data Analytics, Seattle, WA. October 2018. EHR-based Phenotyping in the Presence of Patient-Driven Observation Processes.

31. Deming Conference on Applied Statistics, Atlantic City, NJ. December 2018. Risk Factor Identification and Comparative Effectiveness Research Using Electronic Health Records: Challenges, Analytical Strategies and Recent Developments.
32. Department of Biostatistics, Johns Hopkins University, Baltimore, MD. February 2019. Estimation and Analysis of EHR-derived Phenotypes: A Presentation in Three Acts.
33. ENAR International Biometric Society, Philadelphia, PA. March 2019. Accounting for Differential Misclassification in EHR-Derived Phenotypes.
34. Great Plains IDEA-CTR, Omaha, NE. April 2019. Considering Data Provenance in the Analysis of EHR Data.
35. Atlanta Workshop on Biostatistics and Bioinformatics, Atlanta, GA. May 2019. Real World Data, Real World Problems: Accounting for Data Provenance in EHR-based Analyses.
36. Vanderbilt University Department of Biostatistics, Nashville, TN. May 2019. A Statistical Perspective on Challenges and Opportunities in Research Using Real World Data.
37. ASA Princeton-Trenton Chapter Spring 2019 Symposium, New Brunswick, NJ. May 2019. Fit for Use? A Statistical Perspective on Opportunities and Challenges in Research Using Real World Data.
38. International Chinese Statistical Association China Meeting, Tianjin, China. July 2019. An Unsupervised Approach to the Development and Analysis of Electronic Medical Records-based Phenotypes.
39. ASA Biopharmaceutical Statistics Section Regulatory-Industry Statistics Workshop. Washington, DC. September 2019. Fit for Use? The Role of Statistics in Transforming Electronic Health Records into Clinical Evidence.
40. iBRIGHT, Houston, TX. November 2019. Bias Reduction Approaches for Cancer Outcomes Research Conducted Using Electronic Health Records.
41. International Conference on Health Policy Statistics, San Diego, CA. January 2020. Challenges and Opportunities in Statistical Methods for Studies of Aging and Dementia.
42. Biostatistics Division, Department of Pharmacology and Experimental Therapeutics, Thomas Jefferson University, Philadelphia, PA. January 2020. A Statistician's Perspective on Transforming Real World Data into Real World Evidence.
43. Department of Health Outcomes and Biomedical Informatics, University of Florida, Gainesville, FL. January 2020. Statistical Tools to Overcome the Challenges in Transforming Real World Data into Evidence.
44. Center for Bioinformatics and Computational Biology, University of Delaware, Newark, DE. February 2020. An Introduction to Extraction and Analysis of EHR-derived Phenotypes.
45. WebENAR, June 2020, *virtual presentation*. The Role of Statistics in Transforming EHR Data into Knowledge.
46. Value Institute, Christiana Care Health System, *virtual presentation*, October 2020. Bias and Error in Research Using EHR-derived Phenotypes.
47. Center for Health Incentives and Behavioral Economics, University of Pennsylvania, *virtual presentation*, October 2020. Phenotyping and Analysis of EHR data Using Bayesian Clustering.
48. Open Insights in Data Science Seminar Series, University of Pennsylvania, *virtual presentation*, October 2020. The Role of Data Provenance in EHR Phenotyping and Analysis.
49. Department of Biostatistics & Bioinformatics and Department of Statistics Joint Seminar, Duke University, *virtual presentation*, November 2020. The Role of the Statistician in Extracting Knowledge from Healthcare Data
50. Sixth Seattle Symposium in Biostatistics, *virtual presentation*, November 2020. Grappling with Bias and Error in the Analysis of EHR-derived Phenotypes.

51. 13th International Conference of the European Research Consortium for Informatics and Mathematics Working Group on Computational and Methodological Statistics 2020 (CMStatistics 2020), *virtual presentation*, December 2020. Accelerating Health Research with Electronic Health Records Data.
52. Real World Evidence in Gastrointestinal and Liver Disease Conference, University of Pennsylvania, *virtual presentation*, January 2021. Methods to Address the Complexity of Real World Data.
53. Quantitative Sciences Grand Rounds, Moffitt Cancer Center, *virtual presentation*, January 2021. Tackling Real-World Challenges in the Analysis of EHR Data.