

## Curriculum Vitae

Michelle Denise Shardell, PhD

Professor, Institute for Genome Sciences, Department of Epidemiology and Public Health

Professor and Vice Chair for Research, Department of Epidemiology and Public Health

Director, Division of Biostatistics and Bioinformatics, Department of Epidemiology and Public Health

University of Maryland School of Medicine

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### **Contact Information**

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### **Education**

1995-1998	B.S.	University of Florida, Mathematics (with High Honors)
1998-2000	M.S.	University of Michigan School of Public Health, Biostatistics
2000-2005	Ph.D.	Johns Hopkins University Bloomberg School of Public Health, Biostatistics
	Dissertation:	Analysis of Informatively Coarsened Discrete Time-to-Event Data

### **Accreditation**

2022-Present Accredited Professional Statistician® (PStat®), American Statistical Association

### **Employment History**

1998-2000	Research Assistant, Department of Biostatistics, University of Michigan School of Public Health
1999-2000	Research Assistant, Department of Ophthalmology, University of Michigan School of Medicine
2000-2005	Predoctoral Trainee, NIA Grant "The Epidemiology and Biostatistics of Aging" Johns Hopkins University Bloomberg School of Public Health
2002-2005	Research Assistant, Department of Biostatistics, Johns Hopkins University Bloomberg School of Public Health
2005-2024	Associate, Department of Biostatistics, Johns Hopkins University Bloomberg School of Public Health
2005-2014	Assistant Professor, Department of Epidemiology and Public Health, University of Maryland School of Medicine
2014-2014	Associate Professor (with Tenure), Department of Epidemiology and Public Health, University of Maryland School of Medicine
2014-2019	Adjunct Associate Professor, Department of Epidemiology and Public Health, University of Maryland School of Medicine
2019-Present	Professor, Institute for Genome Sciences, Department of Epidemiology and Public Health, University of Maryland School of Medicine

2020-Present	Special Volunteer, Longitudinal Studies Section, Translational Gerontology Branch, Intramural Research Program, National Institute on Aging
2023-Present	Vice Chair for Research, Department of Epidemiology and Public Health, University of Maryland School of Medicine
2023-Present	Co-Director, Biostatistics and Informatics Core, University of Maryland Claude D Pepper Older Americans Independence Center, University of Maryland, Baltimore
2025-Present	Director, Division of Biostatistics and Bioinformatics, Department of Epidemiology and Public Health, University of Maryland School of Medicine
2025-Present	Director, Biostatistics Core, Institute for Clinical and Translational Research, University of Maryland, Baltimore

### **Other Employment**

1998	Statistical Programmer, Pediatric Oncology Group Statistical Office, Gainesville, Florida
2014-2019	Staff Scientist Statistician, Longitudinal Studies Section, Translational Gerontology Branch, Intramural Research Program, National Institute on Aging

### **Professional Society Memberships**

2004-Present	Member, International Biometric Society (Eastern North American Region)
2007-Present	Member, 2017-Present Fellow, Gerontological Society of America
2009-Present	Member, 2023-Present Fellow, American Statistical Association
2023-Present	Member, American Association for the Advancement of Science
2025-Present	Elected Member, International Statistical Institute

### **Honors and Awards**

1996	<u>Golden Key National Honor Society</u> , University of Florida
1998	<u>Phi Beta Kappa</u> , University of Florida
1998	<u>Graduation with High Honors</u> , University of Florida
2004	<u>Helen Abbey Award</u> for excellence in teaching, Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health
2004	<u>Jane and Steve Dykacz Award</u> for best student paper in medical statistics, Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health
2006	<u>Outstanding Teacher Award*</u> , Department of Epidemiology and Preventive Medicine, University of Maryland; Baltimore, Maryland <i>* This award is selected by an independent student committee and is not influenced or directed by any faculty member.</i>
2008-2009	<u>Scholar</u> , Building Interdisciplinary Research Careers in Women's Health (BIRCWH), University of Maryland; Baltimore, Maryland
2009	<u>Honorary University Shield</u> , Faculty of Medicine, Al-Azhar University (oldest university in Egypt, founded 975 AD), Cairo, Egypt.
2009	<u>Honorary Plaque of Recognition</u> , Egyptian Medical Syndicate, (Dar Al Hekma), (Egypt's equivalent of the American Medical Association), for outstanding scientific contribution, Tanta Fever Hospital, Ministry of Health and Population, Egypt.
2009	<u>Travel Award</u> to attend the International Biometric Society / Eastern North American Region (ENAR) Workshop for Junior Researchers, San Antonio, Texas
2017	<u>Fellow</u> , Gerontological Society of America
2018	<u>Summer Research Mentor Award</u> , National Institutes of Health

2018	<u>William G. Coleman Minority Health and Health Disparities Research Innovation Award</u> , (with Dr. Nancy Chiles-Shaffer) National Institute on Minority Health and Health Disparities
2020	<u>Strategic Initiatives Award</u> for best proposal for “Developing the Next Generation of Biostatisticians,” American Statistical Association Biometrics Section
2021	<u>Elected to Council of Sections Governing Board</u> , American Statistical Association
2021	<u>Elected to Board of Directors</u> , American Statistical Association
2021	<u>Elected Program Chair</u> , American Statistical Association Statistics in Epidemiology Section
2024	<u>Fellow</u> , American Statistical Association
2025	<u>Elected Member</u> , International Statistical Institute

### Administrative Service

#### Institutional Service

##### Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland

2002-2004	Biostatistics Student-Faculty Representative, Department of Biostatistics
2002-2004	Co-Director, Biostatistics Student-Run Journal Club, Department of Biostatistics
2003-2004	Facilitator, Biostatistics Teaching Assistant Training, Department of Biostatistics,

##### University of Maryland, Baltimore

2005-2006	Member, Graduate Comprehensive Exam Committee
2005-2007	Founder and Coordinator, Statistical Genetics Journal Club
2006-2014	Member, Graduate Program Committee
2006-2008	Member, Research Committee
2007-2010	Chair, Committee on Teaching Assistant Policy
2008-2009	Member, Graduate Comprehensive Exam Committee
2009	Member, Trudy Bush Award Selection Committee
2009-2014	Member, Publications Committee for the Baltimore Hip Studies
2009-2014	Member, Master of Public Health Curriculum Committee
2010	Biostatistical Reviewer, University of Maryland College Park & University of Maryland Baltimore Seed Grant Program
2010-2011	Member and Biostatistical Reviewer; Shock Trauma Center Research Committee; Shock, Trauma and Anesthesiology Research (STAR) Organized Research Center Representative, School of Medicine Council
2010-2014	Member, Biostatistics Curriculum Committee
2011-2014	Interviewer of Prospective PhD Students, Graduate Program in Life Sciences Doctoral Program in Epidemiology and Human Genetics
2012-2014	Member, Graduate Comprehensive Exam Committee
2013-2014	Member, Mock Review (Grant Application) Committee
2014	Member, Faculty Bioinformatician Search Committee; University of Maryland Greenebaum Cancer Center
2014	Interviewer of Post-Doctoral Fellowship Applicants, Epidemiology of Aging T32 Fellowship
2018-2019	Member, T32 Epidemiology of Aging External Advisory Committee
2019-Present	Member, T32 Epidemiology of Aging Oversight Committee

2019-Present	Member, Institute for Genome Sciences Campus Outreach Committee
2020	Grader, Comprehensive Exam for Gerontology PhD program
2021-2024	Basic Science Faculty Representative Alternate, Executive Committee of the School of Medicine
2023-Present	Appointment, Promotion, and Tenure Committee, Institute for Genome Sciences
2023	Moderator and Panelist, Institute for Genome Sciences "Take Your Child to Work Day" Career Panel
2023	Organizer (with Chixiang Chen), Division of Biostatistics and Bioinformatics Annual Retreat, Department of Epidemiology and Public Health
2023-2024	Member, Division of Gerontology Faculty Search Committee, Department of Epidemiology and Public Health
2023	Member, Strategic Plan Working Group for Research, University of Maryland School of Medicine
2023	Reviewer, UMB ICTR Voucher Program
2023-2024	Member, Bioinformatician/Computational Biology Faculty Search Committee, Institute for Genome Sciences and Center for Vaccine Development, University of Maryland School of Medicine
2024	Member, University of Maryland Greenebaum Comprehensive Cancer Center Biostatistics Shared Service Director Faculty Search Committee, University of Maryland Medical System
2024-Present	Member, Epidemiology and Public Health Department Chair Search Committee, University of Maryland School of Medicine
2024-Present	Member, Graduate Program in Life Sciences (GPILS) Advisory Committee, University of Maryland School of Medicine
2024	Chair, Ad Hoc Appointment, Promotion, and Tenure Appeal Committee, Epidemiology and Public Health, University of Maryland School of Medicine
2024-Present	Member, Center for Advanced Microbiome Research and Innovation Faculty Search Committee, University of Maryland School of Medicine
2025	Reviewer, UMB ICTR Accelerated Translational Incubator Pilot (ATIP) Program

### National Institute on Aging (NIA)

2014, 2017	Ad Hoc Reviewer, Scientific Review Committee
2015-2016	Member, Baltimore Longitudinal Study on Aging Data Quality Control Committee
2015-2019	Member, Quantitative Science Interest Group Steering Committee
2016	Fellows Award for Research Excellence (FARE) Judge
2017-2019	NIA Intramural Research Program (IRP) Annual Retreat Poster Judge
2017-2019	Member, NIA Biomedical Data Science Network
2017	NIH Post-Baccalaureate Poster Day Poster Judge
2018-2019	Member, NIA Artificial Intelligence Working Group
2018-2019	Fellows Award for Research Excellence (FARE) Judge
2018-2019	Member, Longitudinal Studies Section Steering Committee
2019	Interviewer, Translational Gerontology Branch Tenure-Track Investigator Candidates

### National Service

2005-Present	<u>Ad hoc journal reviewer:</u> <i>American Journal of Clinical Nutrition</i>
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	<i>American Journal of Epidemiology</i> <i>American Journal of Obstetrics &amp; Gynecology</i> <i>American Journal of Tropical Medicine and Hygiene</i> <i>Annals of Epidemiology</i> <i>Annals of Internal Medicine</i> <i>Biometrics</i> <i>Biostatistics</i> <i>BMC Bioinformatics</i> <i>British Medical Journal</i> <i>Clinical Trials</i> <i>Computational Statistics and Data Analysis</i> <i>Dementia and Geriatric Cognitive Disorders</i> <i>Gerontologist</i> <i>International Journal of Epidemiology</i> <i>JAMA</i> <i>Journal of Aging and Health</i> <i>Journal of Alzheimer's Disease</i> <i>Journal of Applied Gerontology</i> <i>Journal of the American Geriatrics Society</i> <i>Journal of the American Statistical Association</i> <i>Journal of Biopharmaceutical Statistics</i> <i>Journal of Clinical Epidemiology</i> <i>Journals of Gerontology: Series A (Biological Science)</i> <i>Journals of Gerontology: Series A (Medical Science) (2-3 times per year)</i> <i>Journal of the Royal Statistical Society: Series B (Statistical Methodology)</i> <i>Journal of the Royal Statistical Society: Series C (Applied Statistics)</i> <i>Medical Care</i> <i>Nature Communications</i> <i>Nutrition, Metabolism, and Cardiovascular Diseases</i> <i>PLoS ONE</i> <i>Psychological Methods</i> <i>Rejuvenation Research</i> <i>Statistical Science</i> <i>Statistics in Medicine</i>
2008-2013	<u>Member of Data Safety Monitoring Board</u> ; R01 AG030141-01A1 “Improving Pain and Function in Hip Fracture” (PI, Sean R. Morrison)
2009	<u>Chair</u> , “Power/Sample Size.” Eastern North American Region of the International Biometric Society Annual Meeting; San Antonio, Texas.
2010	<u>Chair</u> , Symposium “Physical Activity among Vulnerable Older Adults: An Exploration of Potential Benefits and Barriers.” Gerontological Society of America Annual Meeting; New Orleans, Louisiana.
2010-2015	<u>Associate Editor</u> , <i>BMC Public Health</i>
2010-2022	<u>Abstract Reviewer</u> , Gerontological Society of America Annual Meeting
2011-2013	<u>Regional Advisory Board Member</u> , Eastern North American Region of the International Biometric Society
2011	<u>Chair</u> , “Research Methods.” Gerontological Society of America Annual Meeting; Boston, Massachusetts.
2012	<u>Chair</u> , Symposium “Missing Data in Aging Research: Challenges, Innovations, and Best Practices.” Gerontological Society of America Annual Meeting; San Diego, California.

2013	<u>Ad hoc reviewer</u> , Neurological, Aging, Musculoskeletal Epidemiology (NAME) NIH Study Section
2013	<u>Chair</u> , Symposium “Answering Causal Questions in Aging: Causal Inference in Practice.” Gerontological Society of America Annual Meeting; New Orleans, Louisiana.
2014	<u>Chair</u> , “Nutrition.” Gerontological Society of America Annual Meeting; Washington, DC.
2014-2016	<u>Convener of the Measurement, Statistics, and Research Design Interest Group</u> ; Gerontological Society of America.
2016	<u>Abstract Reviewer</u> , International Association of Gerontology and Geriatrics (IAGG) World Congress of Gerontology and Geriatrics
2016	<u>Chair</u> , “Health Assessments” Gerontological Society of America Annual Meeting; New Orleans, Louisiana.
2017-Present	<u>Statistical Editor</u> , <i>Seminars in Arthritis and Rheumatism</i>
2017-2019	<u>Health Sciences Section Representative to the Mentoring Committee</u> , Gerontological Society of America
2018-Present	<u>Member</u> , Cardiovascular Health Study Geriatrics Working Group
2018-Present	<u>Member</u> , Cross-Cohort Collaboration Working Group
2018	<u>Chair</u> , “Nutrition and Functional Status,” Gerontological Society of America Annual
2018	<u>Mentor</u> , “Mentoring Consultancies for Emerging Scholars,” Gerontological Society of America Annual Meeting; Boston, Massachusetts.
2018	<u>Moderator</u> , “Results and Positions on Lean Mass,” Sarcopenia Definitions and Outcomes Position Statements Conference; Boston, Massachusetts
2019-Present	<u>Statistical Reviewer</u> , <i>JAMA Network Open</i>
2019	<u>Participant and Mentor</u> , Bench-to-Bedside Conference Series: Osteoporosis and Soft Tissue (Muscle/Fat) Disorders
2019	<u>Mentor</u> , “Mentoring Consultancies for Emerging Scholars,” Gerontological Society of America Annual Meeting; Austin, Texas.
2020-Present	<u>Member</u> , Statistical Partnerships Among Academe, Industry, and Government Committee, American Statistical Association
2020	<u>Health Sciences Section Fellows Review Board Member</u> , Gerontological Society of America
2020	<u>Volunteer</u> , American Statistical Association Virtual Networking Session, Joint Statistical Meeting; virtual (originally scheduled for Philadelphia, Pennsylvania)
2020	<u>Co-organizer</u> , Topic-Contributed Session “Innovative Methods for Missing Data and Measurement Error in Health Research,” Joint Statistical Meetings; virtual (originally scheduled for Philadelphia, Pennsylvania)
2020	<u>Chair</u> , Symposium “Gut Microbiome in Older Men: Findings from the Osteoporotic Fractures in Men Study.” Gerontological Society of America Annual Meeting; virtual (originally scheduled for Philadelphia, Pennsylvania)
2020-2023	<u>Byar Award Committee Member</u> , Biometrics Section of the American Statistical Association
2020-Present	<u>Member &amp; Checklist Validator</u> , STrengthening the Organization and Reporting of Microbiome Studies (STORMS) Consortium ( <a href="https://www.stormsmicrobiome.org/">https://www.stormsmicrobiome.org/</a> )
2021	<u>Chair</u> , Invited Session “Biostatistical Advances to Meet Challenges in Aging and Gerontology,” Eastern North American Region of the International Biometric Society Annual Meeting; virtual (originally scheduled for Baltimore, Maryland)
2021-Present	<u>Statistical Editor</u> , <i>Journals of Gerontology Series A Biological Sciences</i>
2021	<u>Reviewer</u> , ZAG1 JIJ-3 NIH Special Emphasis Panel Study Section
2021	<u>Organizer and Chair</u> , Invited Paper Session “Advances in Longitudinal Methods in

	Research on Aging and Dementia from the MEthods for LOngitudinal Studies of DEMentia (MELODEM) Initiative,” Joint Statistical Meetings; virtual (originally scheduled for Seattle, Washington)
2021	<u>Volunteer</u> , American Statistical Association Virtual Networking Session, Joint Statistical Meeting; virtual (originally scheduled for Seattle, Washington)
2021-Present	<u>Young Investigator/Early Career Investigator Award Committee Member</u> , Statistics in Epidemiology Section of the American Statistical Association
2022	<u>Reviewer</u> , ZAG1 ZIJ-P NIH Special Emphasis Panel Study Section
2022-2024	<u>Council of Sections Governing Board Representative (Elected)</u> , American Statistical Association
2022-2024	<u>Board of Directors Member (Elected)</u> , American Statistical Association
2022	<u>Program Chair-Elect</u> , American Statistical Association Statistics in Epidemiology Section
2022	<u>Vice Chair</u> , Statistical Partnerships Among Academe, Industry, and Government Committee, American Statistical Association
2022	<u>Judge</u> , American Statistical Association K-12 Data Visualization Poster Competition
2022	<u>Reviewer</u> , ZAG1 ZIJ-U NIH Special Emphasis Panel Study Section
2022	<u>Member</u> , American Statistical Association Search Committee to hire a consulting organization to implement recommendations of the American Statistical Association
2022	<u>Reviewer</u> , Analytics and Statistics for Population Research Panel A (ASPA) NIH Study Section
2022	<u>Chair</u> , Symposium “Gerontologic Biostatistics: Merging with Data Science Toward Personalized Medicine,” Gerontological Society of America Annual Meeting; Indianapolis, Indiana
2023	<u>Program Chair</u> , American Statistical Association Statistics in Epidemiology Section
2023	<u>Chair</u> , Statistical Partnerships Among Academe, Industry, and Government Committee, American Statistical Association
2023	<u>Reviewer</u> , Pilot Review Panel, Interventional Studies in Aging Center at Hebrew SeniorLife Institute for Aging Research, Harvard Medical School
2023	<u>Panelist</u> , Patient-Centered Outcomes Research Institute Merit Review Panel (Cycle 3, Healthy Aging)
2023-Present	<u>Methods Consultant</u> , Network for Investigation of Delirium: Unifying Scientists (NIDUS) Pilot Award RFA
2023	<u>Member</u> , American Statistical Association Board of Directors Subcommittee to review naming of a new award (x2)
2023	<u>Organizer</u> , Invited Paper Session “Strengthening our Community through Impactful Multi-Sector Data-Driven Collaborations,” Joint Statistical Meetings; Toronto, Ontario, Canada
2023	<u>Chair</u> , Symposium “Epidemiologic Geroscience Innovations at the Nexus of Reproductive Aging and Women’s Health,” Gerontological Society of America Annual Meeting; Tampa, FL
2023	<u>Organizer and Moderator</u> , ASA Statistical Partnerships among Academe, Industry, and Government (SPAIG) Committee Fall Webinar on Industry and Government Internships
2024	<u>Senior Grant Reviewer</u> , National Pepper Center Annual Meeting Mock Study Section
2024	<u>Co-Founder</u> , Statistics and Data Science in Aging Interest Group, American Statistical Association
2024-2025	<u>Founding Program Chair</u> , Statistics and Data Science in Aging Interest Group, American Statistical Association
2024-Present	<u>Standing Member</u> , Analytics and Statistics for Population Research Panel A (ASPA)

	NIH Study Section
2024	<u>Moderator</u> , Joint ASA Statistics and Data Science in Aging Interest Group and GSA Measurement, Statistics, and Research Design Interest Group Grant Writing Panel Discussion, Gerontological Society of America Annual Meeting; Seattle, WA
2024	<u>Organizer and Chair</u> , “Novel Methods and Metrics for Medicare Data to Understand Recovery after Hospitalization for Injury,” Gerontological Society of America Annual Meeting; Seattle, WA
2025	<u>Interest Group Chair</u> , Council of Sections, American Statistical Association
2025-Present	<u>Member</u> , Committee of Representatives to the American Association for the Advancement of Science, American Statistical Association
2025	<u>External Review</u> , Johns Hopkins University Claude D Pepper Older Americans Independence Center Pilot/Exploratory Studies
2025	<u>External Review</u> , Network for Investigation of Delirium: Unifying Scientists (NIDUS) Pilot Studies
2025-Present	<u>Member</u> , Methodology Committee, Patient-Centered Outcomes Research Institute
2025	<u>Organizer</u> (with S. Roychoudhury and R. Ellis), “Harnessing Multi-Sector Collaboration in Statistics and Artificial Intelligence for Social Welfare,” Joint Statistical Meetings; Nashville TN.

## International Service

2005	<u>Participant</u> , Curriculum Development Workshop, College of Health Sciences, American University of Armenia; Yerevan, Armenia.
2014-Present	<u>Member</u> , Methods for Longitudinal Studies of Dementia (MELODEM) Initiative
2016	<u>Abstract Reviewer</u> , International Association of Gerontology and Geriatrics (IAGG)
2020	<u>Grant Reviewer</u> , Swiss National Science Foundation
2024	<u>Organizer and Chair</u> , Invited Session “Challenges and Opportunities of Statistical Analysis with Real-World Data: Inference and Prediction,” International Biometric Conference; Atlanta, GA

## Teaching Service

### Medical Student Teaching

2011-2013	<u>Lecturer</u> for Foundations of Disease Course, Lecture titles: “Biostatistical Inference I and II”, “Regression”, and “Survival Analysis” University of Maryland School of Medicine Average 160 second-year medical students, 4.0 contact hours/year
2020	<u>Invited Lecturer</u> for the Program for Research Initiated by Students and Mentors (PRISM) Medical Student Summer Research Program, Lecture title: “Biostatistics in Biomedical Research: Introduction to P-values and Multiple Comparisons,” University of Maryland School of Medicine 57 first-year UM medical students, 2.0 contact hours/year
2020	<u>Invited Lecturer</u> for the Summer Program in Obesity, Diabetes, and Nutrition Research

Program (SPORT), Lecture title: “Biostatistics in Biomedical Research: Introduction to P-values and Multiple Comparisons,” Department of Medicine, University of Maryland School of Medicine  
12 medical students, 2.0 contact hours/year

### Graduate Education

2001-2004	<u>Teaching Assistant</u> for multiple courses, Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health 25-300 graduate students, 2-5 contact hours/week, 8 weeks/course
2002	<u>Lead Teaching Assistant</u> for 140.621-622 “Statistical Methods in Public Health I & II,” Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health Average 300 graduate students, 4 contact hours/week for 16 weeks
2002-2003	<u>Robert Wood Johnson Teaching Assistant</u> for 140.621-624 “Statistical Methods in Public Health I-IV,” Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health 9 Robert Wood Johnson Fellows, 2 contact hours/week for 32 weeks
2003-2004	<u>International Lecturer</u> for Biostatistics I and II “Inferential Biostatistics” and “Biostatistical Modeling,” Department of General Practice and Primary Health Care, University of Helsinki, Finland 25 graduate students, 16 contact hours/week for 8 weeks
2005	<u>Visiting Assistant Professor</u> for Biostatistics II “Biostatistics Modeling and Sampling,” College of Health Sciences, American University of Armenia, Yerevan, Armenia 25 graduate students, 15 contact hours/wk for 4 weeks
2005-2010	<u>Instructor</u> for 140.611-612 “Statistical Reasoning in Public Health I and II,” Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health Average 80 graduate and transient students, 18 contact hours/wk for 3 weeks
2006-2010 & 2012-2014	<u>Course Director</u> for PREV 720 “Statistical Methods in Epidemiology,” Department of Epidemiology and Public Health, University of Maryland School of Medicine Required course for the PhD Epidemiology program, the PhD Gerontology program Epidemiology track, the MS Epidemiology program, the MS Clinical Research program, and the MPH Epidemiology Concentration Average 25 graduate students/class, 4-5 contact hours/week for 16 weeks/year
2009-Present	<u>Invited Lecturer</u> for GERO/PREV 681 “Epidemiology of Aging,” Lecture title: “Proxy Respondents in Aging Research,” Department of Epidemiology and Public Health, University of Maryland School of Medicine Required course for PhD Gerontology program Average 10 graduate students/class, 1.5 contact hours/year
2010	<u>Course Director</u> for PREV/PH 621 “Introduction to Biostatistics,” Department of

Epidemiology and Public Health, University of Maryland School of Medicine  
Required course for MPH Global Health concentration and MPH Community & Population Health concentration  
36 on-site graduate students, 5 web-based graduate students, 4 contact hours/week for 16 weeks/year

2020-Present	<u>Invited Lecturer</u> for GPLS 716 “Genomics and Bioinformatics,” Lecture title: “Introduction to P-values and Multiple Comparisons,” Graduate Program in Life Sciences, University of Maryland School of Medicine Required course for PhD students in Molecular Medicine (Genome Biology track) Average 24 graduate students/class, 3.0 contact hours/year
2020-Present	<u>Invited Lecturer</u> for PREV 780 “Molecular Epidemiology,” Lecture title: “Statistical Issues in Molecular Epidemiology,” Graduate Program in Life Sciences, University of Maryland School of Medicine Required course for PhD students in Epidemiology (Molecular Epidemiology track) Average 9 graduate students/class, 2.0 contact hours/year
2024-Present	<u>Faculty Mentor</u> for PREV 747 “Research Practicum,” Graduate Program in Life Sciences, University of Maryland School of Medicine Required course for PhD students in Epidemiology Mentor for 1 graduate student, 25 contact hours/year

#### Postdoctoral Scholars

2023	<u>Invited Lecturer</u> for Grant Writing Class, Lecture title: “Specific Aims,” Office of Postdoctoral Scholars, University of Maryland School of Medicine Class designed for students/fellows planning to submit a grant 29 students/class, 1.0 contact hours/year
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#### Early-Stage Investigators

2025	Invited Lecturer for Clinical and Translational Research Training Trainees, Lecture Title: “Basics in Biostatistics, Interacting with a Biostatistician”, Center for Advanced Research Training & Innovation (CARTI), University of Maryland School of Medicine Training Program designed for late-stage fellows and early-stage faculty 9 students/class, 1.0 contact hours/year
2025	Invited Lecturer for Multi-R01 Peer Mentoring Group, Lecture Title: “Five Pro Tips for Writing and Managing Multiple R01s”, Center for Advanced Research Training & Innovation (CARTI), University of Maryland School of Medicine Mentoring group designed for early-stage to mid-career faculty 3 students/class, 1.0 contact hours/year

#### Undergraduate Education and Outreach

2020	<u>Invited Lecturer</u> for the Nathan Schnaper Intern Program in Translational Cancer Research (NSIP), Lecture title: “Biostatistics in Biomedical Research: Introduction to P-
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values and Multiple Comparisons,” University of Maryland Marlene and Stewart Greenebaum Comprehensive Cancer Center  
18 undergraduate summer interns, 2.0 contact hours/year

2020 Invited Lecturer for the University of Maryland Summer Scholars Program, Lecture title: “Biostatistics in Biomedical Research: Introduction to P-values and Multiple Comparisons,” University of Maryland, Baltimore  
23 UM College Park sophomores and juniors, 2.0 contact hours/year

#### High School and Community College Outreach

2021 Invited Lecturer for the Pathways to Technology Early College High School (P-TECH) Program at Paul Laurence Dunbar High School, Lecture title: “Introduction to Careers in Biostatistics,” Paul Laurence Dunbar High School, Baltimore  
53 P-TECH Dunbar High School sophomore students, 0.5 contact hours/year

2021 Invited Lecturer for the University of Maryland, Baltimore (UMB) Continuing Umbrella of Research Experiences (CURE) Scholars Program, Lecture title: “Introduction to Careers in Biostatistics,” University of Maryland, Baltimore  
30 High school Sophomore and junior UMB CURE Scholars from West Baltimore, 1.0 contact hour/year

2021 Invited Lecturer for the University of Maryland, Baltimore (UMB) Continuing Umbrella of Research Experiences (CURE) Scholars Program, Lecture title: “Internship Opportunities in Biostatistics,” University of Maryland, Baltimore  
30 High school Junior and Senior UMB CURE Scholars from West Baltimore, 1.0 contact hour/year

2023-Present Invited Lecturer for the University of Maryland, Baltimore (UMB) Institute for Genome Sciences Summer Intern Program, Lecture title: “Introduction to Careers in Biostatistics,” University of Maryland, Baltimore  
10 High school Interns, 1.0 contact hour/year

2023-Present Invited Lecturer for the University of Maryland, Baltimore (UMB) Institute for Genome Sciences Summer Intern Program, Lecture title: “Introduction to P-Values,” University of Maryland, Baltimore  
10 High school Interns, 1.0 contact hour/year

#### Thesis Committees

##### M.S. and Ph.D. Thesis Committees

(All are students from Department of Epidemiology and Public Health, University of Maryland, Baltimore, unless indicated otherwise)

2006 *Member & Biostatistics Mentor*, Jian Ye, Ph.D.  
2006-2008 *Member & Biostatistics Mentor*, Hua Ling, Ph.D.  
2007-2008 *Member & Biostatistics Mentor*, Kerri Thom, M.D., M.S. (K23 Awardee)  
2005-2008 *Member*, Fatma Shebl, M.B.B.Ch, Ph.D.  
2006-2008 *Member & Biostatistics Mentor*, Daniel Andersen, Ph.D

2006-2009	<i>Member &amp; Biostatistics Mentor</i> , Shayna Rich, M.D./Ph.D. (F31 Awardee)
2006-2009	<i>Membe &amp; Biostatistics Mentor r</i> , Kristen Kreisel, Ph.D.
2007-2009	<i>Member &amp; Biostatistics Mentor</i> , Marin Schweizer, Ph.D.
2007-2010	<i>Member &amp; Biostatistics Mentor</i> , Julia Chan, Ph.D.
2007-2010	<i>Co-Chair</i> , Christopher D'Adamo, Ph.D.
2007-2013	<i>Member &amp; Biostatistics Mentor</i> , Maya Matheny, Ph.D.
2010-2012	<i>Member &amp; Biostatistics Mentor</i> , Aaron Hess, M.D./Ph.D.
2011-2013	<i>Member &amp; Biostatistics Mentor</i> , Ying Tang, Ph.D.
2011-2014	<i>Member &amp; Biostatistics Mentor</i> , Lisa Reider, Ph.D.
2019-2023	<i>Member &amp; Dean's Representative</i> , Christina Stennett, Ph.D. (NIH R36 Awardee)
2019-2022	<i>Member &amp; Dean's Representative</i> , DeeDee Ismail, Ph.D.
2020-2021	<i>Member &amp; Dean's Representative</i> , Rashmita Bajracharya, Ph.D.
2021-2024	<i>Member</i> , Bing Guo, Ph.D. (Graduate Program in Life Sciences Dissertation Awardee)
2021-2024	<i>Member &amp; Biostatistics Mentor</i> , Sarah Robbins, Ph.D. (NIH F31 Awardee)
2021-2024	<i>Member &amp; Dean's Representative</i> , Jennifer Kirk, Ph.D.
2022-2025	<i>Member &amp; Reader</i> , Bern Monari, Ph.D, Department of Microbiology and Immunology (UMB ICTR KL1 Awardee)
2022-2024	<i>Member &amp; Dean's Representative</i> , Rhea Mehta, Ph.D.
2023-Present	<i>Chair</i> , Aman Shrestha, Ph.D. candidate (2024 GSA Travel Award, 2025 EPH Early Career Gerontology Award)
2023-Present	<i>Co-Chair</i> , Anam Ahmad, M.D./Ph.D. candidate
2024-Present	<i>Member</i> , Isaac Chaudry, M.D./Ph.D. candidate Department of Microbiology and Immunology

### **M.P.H. Faculty Advisor**

2012-2014	Nkem Nonyel, PharmD/MPH student, Community and Population Health Concentration
2013-2014	Brian Normile, DDS/MPH student, Epidemiology Concentration
2013-2014	Modanat Lawal, MPH student, Community and Population Health Concentration
2013-2014	Amber Makowski, MPH student, Community and Population Health Concentration

### **Other Advisees/Mentees**

2010-2011	Dawn Ally, PhD, NIH BIRCWH K12 Mentored Career Development Award Recipient (Biostatistics Mentor), Assistant Professor, Department of Epidemiology and Public Health, University of Maryland, Baltimore
2010-2014	Kerri Thom, MD, MS, NIH K23 Mentored Career Development Award Recipient (Biostatistics Mentor), Assistant Professor, Department of Epidemiology and Public Health, University of Maryland, Baltimore
2010-2014	Daniel Morgan, MD, MS, AHRQ K08 Mentored Career Development Award Recipient (Biostatistics Mentor), Assistant Professor, Department of Epidemiology and Public Health, University of Maryland, Baltimore
2014-2017	Alan Rathbun, PD NIH T32 Epidemiology of Aging Post-Doctoral Fellow, Department of Epidemiology and Public Health, University of Maryland, Baltimore
2015-2017	Shabnam Salimi, PhD, NIH T32 Epidemiology of Aging Post-Doctoral Fellow, Department of Epidemiology and Public Health, University of Maryland, Baltimore
2017-2025	Alan Rathbun, PhD, Rheumatology Research Foundation Scientist Development Award Recipient (Committee Chair) and NIH K01 Recipient (Biostatistics Mentor), Assistant Professor, Department of Epidemiology and Public Health, University of Maryland, Baltimore

2021-Present	Johanna Holm, PhD, NIH K01 Mentored Career Development Award Recipient (Biostatistics Mentor), Assistant Professor, Institute for Genome Sciences, University of Maryland, Baltimore
2021-Present	Jason Falvey, PT, PhD, NIH Paul Beeson K76 Mentored Career Development Award Recipient (Biostatistics Mentor), Assistant Professor, Department of Physical Therapy, University of Maryland, Baltimore
2022-Present	Jenny Pena Dias, PhD, NIH K01 Mentored Career Development Award Recipient (Biostatistics Mentor), Instructor, Division of Endocrinology, Diabetes and Metabolism, Johns Hopkins University School of Medicine
2022-2023	Charlotte Ravel, Institute for Genome Sciences Summer Internship Program (Mentor), Undergraduate Student, University of Maryland, College Park
2023-Present	Joanna-Lynn Borgogna, PhD, NIH K99/R00 Pathway to Independence Award Recipient (Co-Sponsor and Biostatistics Mentor), Postdoctoral Fellow, Montana State University
2023-Present	Chixiang Chen, PhD, UM-OAIC Pepper Pilot Awardee and National OAIC Coordinating Center Flexible, High Value Early Career Faculty Awardee (Senior UM-OAIC Pepper faculty mentor)
2024-Present	Kayla Carter, PhD, NIH F32 Postdoctoral Award Recipient (Co-Sponsor and Biostatistics Mentor), Postdoctoral Fellow, University of Maryland, Baltimore
2025-Present	Tong Wen, PhD, Postdoctoral Fellow, University of Maryland, Baltimore (GSA 2025 Travel Award)
2025-Present	Galya Bigman, PhD, UM-OAIC Pepper Pilot Awardee

## **Grant Support**

### **Active Grants**

8/15/21-6/30/26	(Co-Director of the Biostatistics and Informatics Core: 2%) PI: J Magaziner/L Katzel/A Ryan University of Maryland Claude D Pepper Older Americans Independence Center (UM-OAIC) (P30) NIH/National Institute on Aging (P30 AG028747) <i>Annual Direct Costs: \$714,534</i> <i>Total Direct Costs: \$3,572,670</i>
9/01/21-8/31/26	<b>(Contact Principal Investigator: 20%)</b> with MPI R. Brotman Methods to Test the Role of Age-Related Lifestyle, Vaginal Microenvironment Changes and the Prevention, Treatment, and Progression of Genitourinary Syndrome of Aging (R01) NIH/National Institute on Aging (R01 AG069915) <i>Annual Direct Costs: \$576,321</i> <i>Total Direct Costs: \$2,881,605</i>
06/01/22-5/31/26	(Biostatistician/Co-Investigator: 5%) MPI: R Brotman/J Ravel Cervicovaginal microbiome, mucosal immunity, and pathogen factors that contribute to spontaneous clearance of Chlamydia trachomatis (R01) NIH/NIAID (R01 AI167629) <i>Annual Direct Costs: \$578,153</i> <i>Total Direct Costs: \$2,980,752</i>

09/02/22-6/30/27 **(Principal Investigator: 25%)**  
 Statistical Methods for Kidney Markers as Shared Determinants of Dementia and Physical Disability in Older Adults (R01)  
 NIH/National Institute on Aging (R01 AG048069 Competitive Renewal)  
*Annual Direct Costs: \$576,338*  
*Total Direct Costs: \$2,841,505*

02/01/23-11/30/27 **(Principal Investigator: 21%)**  
 Methods to Test Biomarkers of Aging as Shared Determinants of Alzheimer's Disease and Related Dementias and Physical Disability (R01)  
 NIH/NIA (R01 AG079854)  
*Annual Direct Costs: \$481,420*  
*Total Direct Costs: \$2,394,242*

05/01/23-04/30/28 (Faculty Mentor/Oversight Committee: No effort) PI: D Orwig/A Gruber-Baldini  
 Research Training in the Epidemiology of Aging  
 NIH/National Institute on Aging (T32 AG000262)  
*Annual Direct Costs: \$513,478*  
*Total Direct Costs: \$2,567,390*

02/01/24-12/31/28 (Biostatistician/Co-Investigator: 3.5%) PI: S. Tuddenham  
 Factors associated with Refractory and Early Recurrent Bacterial Vaginosis (R01)  
 NIH/NIAID (R01 AI182384)  
*Annual Direct Costs: \$78,936*  
*Total Direct Costs: \$394,682*

05/15/24-04/30/31 (Biostatistics Core Director: 10%) PI: D. Ford/S. Davis  
 Institute for Clinical and Translational Research  
 NIH/NCATS (UM1TR004926)  
*Annual Direct Costs: \$6,419,091*  
*Total Direct Costs: \$44,933,637*

08/15/24-06/30/29 (Biostatistician/Co-Investigator: 3%) PI: C. Chen  
 Developing a Novel Analytical Toolbox to Tackle Multifaceted Statistical Challenges in Analyzing Medicare-linked data for Older Adults living with ADRD  
 NIH/NIA (R01 AG089377)  
*Annual Direct Costs: \$400,365*  
*Total Direct Costs: \$2,001,825*

09/01/25-08/31/27 (Pilot Core Co-Leader: 3%) PI: J. Chen/R. McCoy/S. Thomas  
 Center for Seniors Uniting Nationwide to Support Health, Integrated Care and Economics (SUNSHINE)  
 NIH/NIA (P30AG097158)  
*Annual Direct Costs: \$352,876*  
*Total Direct Costs: \$705,752*

09/22/25-08/31/27 (Statistical Mentor: No Effort) PI: L. Okui

RAISE-Botswana: Research on Aging, AD/ADRD, and its Social Determinants in Botswana  
NIH/NIA (R03 AG097669)  
*Annual Direct Costs: \$99,772*  
*Total Direct Costs: \$199,545*

### Pending Grants

07/01/26–6/30/27 (Principal Investigator: 5%)  
Statistical Methods for Kidney Markers as Shared Determinants of Dementia and Physical Disability in Older Adults - Supplement  
NIH/NIA (R01-Supplement)  
*Annual Direct Costs: \$197,863*  
*Total Direct Costs: \$197,863*

07/01/26–06/30/30 (Biostatistician/Co-Investigator: 2%) PI: S. Kwatra  
Longitudinal immune profiling of Chronic Pruritus of Unknown Origin  
NIH/NIAMS (R01)  
*Annual Direct Costs: \$470,959*  
*Total Direct Costs: \$2,354,795*

04/01/26–3/31/31 (Biostatistician/Co-Investigator: 7.5%) PI: C. Chen  
Optimizing Fall-Related Trauma Recovery for Older Adults with ADRD: Data-Driven Insights into Intervention Delivery and Hospital Influences on Fall-Related Outcomes  
NIH/NIA (R01)  
*Annual Direct Costs: \$450,887*  
*Total Direct Costs: \$2,254,439*

04/01/26–3/31/31 (Principal Investigator: 25%)  
Academic Leadership Award: Training Program in Gerontologic Biostatistics  
NIH/NIA (K07)  
*Annual Direct Costs: \$148,559*  
*Total Direct Costs: \$742,797*

04/01/26–3/31/31 (Biostatistician/Co-Investigator: 15%) PI: A. Rathbun  
Decoding Biological Pathways Underlying Sex-Specific Bone Loss After Hip Fracture  
NIH/NIA (R01)  
*Annual Direct Costs: \$510,902*  
*Total Direct Costs: \$2,554,511*

01/15/26–7/14/27 (Biostatistician/Co-Investigator: 5%) PI: I. Burd  
CHAP-GUIDE Multicenter Implementation Assessment  
NIH/NHLBI (OT2)  
*Annual Direct Costs: \$139,611*  
*Total Direct Costs: \$139,611*

12/01/25–11/30/27 (Biostatistician/Co-Investigator: 5%) PI: S. Chen  
Unbiased Machine Learning Regression for Aging Clocks  
NIH/NIA (R21)

*Annual Direct Costs: \$138,839*

*Total Direct Costs: \$272,678*

09/01/25–08/31/30 (Biostatistician/Co-Investigator: 10%) PI: S. Kwatra  
Biopsychosocial Drivers of Disparities in Prurigo Nodularis  
NIH/NIAMS (R01)  
*Annual Direct Costs: \$504,190*  
*Total Direct Costs: \$2,520,952*

### **Completed Grants**

7/1/01-6/30/02 (Biostatistician) PI: C. Simpson  
Factors Influencing Outcomes for Older African American Women with Asthma  
American Federation of Aging Research  
*Total Costs: \$55,000*

9/1/01-8/31/08 (Co-Investigator/Biostatistician) PI: J. Magaziner/J. Yu-Yahiro  
Determinants of Recovery from Hip Fracture (Bone Metabolism)  
NIH/National Institute on Aging (R01 AG018668)  
*Annual Direct Costs: \$133,350*  
*Total Direct Costs: \$2,281,816*

9/30/01-5/31/09 (Co-Investigator/Biostatistician) PI: M. Baumgarten  
Locus of Care & Pressure Ulcers after Hip Fracture  
NIH/National Institute of Arthritis and Musculoskeletal and Skin Diseases  
(R01 AR47711)  
*Annual Direct Costs: \$593,721*  
*Total Direct Costs: \$3,261,525*

3/1/05-2/28/10 (Co-Investigator/Biostatistician) PI: A. Harris  
Epidemiology of Imipenem-Resistant *P. aeruginosa*  
NIH/National Institute of Allergy and Infectious Diseases (R01 AI060859)  
*Annual Direct Costs: \$125,000*  
*Total Direct Costs: \$500,000*

3/1/07-2/29/16 (Co-Investigator/Biostatistician) PI: J. Magaziner/M. Hochberg  
Epidemiology of Bone Strength and Muscle Composition after Hip Fracture in Men  
NIH/National Institute on Aging (R01 AG029315)  
*Annual Direct Costs: \$815,091*  
*Total Direct Costs: \$2,994,863*

1/1/08-12/31/09 (BIRCWH Scholar) PI: P. Langenberg  
Maryland's Organized Research Effort in Women's Health  
NIH/Eunice Kennedy Shriver National Institute of Child Health and Human  
Development (Building Interdisciplinary Research Careers in Women's Health  
[BIRCWH] K12 HD043489)  
*Annual Direct Costs: \$459,970*  
*Total Direct Costs: \$2,300,239*

5/1/08-4/30/13 (Biostatistician) PI: R. Miller

	Consequences of Inflammation on Muscle Following Hip Fracture NIH/National Institute on Aging (K23 AG027746) <i>Annual Direct Costs: \$160,928</i> <i>Total Direct Costs: \$804,640</i>
6/1/10-5/31/14	(Co-Investigator/Biostatistician) PI: A. Harris Epidemiology of Emerging Pathogens among Hospitalized Patients NIH/National Institute of Allergy and Infectious Diseases (R01 AI060859) <i>Annual Direct Costs: \$116,325</i> <i>Total Direct Costs: \$486,793</i>
7/26/10-7/25/12	(Co-Investigator/Biostatistician) PI: J. Furuno Using Nursing Home Antibiograms to Improve Antibiotic Prescribing and Delivery Agency for Healthcare Research & Quality (HHS A290200600020I) <i>Annual Direct Costs: \$221,616</i> <i>Total Direct Costs: \$432,232</i>
9/1/10-5/31/19	(Co-Investigator/Biostatistician) PI: J. Magaziner/R. Craik Community Ambulation Following Hip Fracture <i>ClinicalTrials.gov Identifier: NCT01783704</i> NIH/National Institute on Aging (R01 AG035009) <i>Annual Direct Costs: \$2,110,410</i> <i>Total Direct Costs: \$10,050,364</i>
4/1/11-3/31/15	<b>(Principal Investigator)</b> Statistical Methods to Correct for Proxy Bias in Studies of Older Adults NIH/National Institute on Aging (K25 AG034216) <i>Annual Direct Costs: \$121,977</i> <i>Total Direct Costs: \$371,140</i>
9/1/11-5/31/18	(Co-Investigator/Biostatistician) PI: J. Magaziner Effects of Multi-Modal Exercise Intervention Post Hip Fracture NIH/National Institute on Aging (R37 AG009901) <i>Annual Direct Costs: \$641,149</i> <i>Total Direct Costs: \$2,992,029</i>
8/1/12-4/30/18	<b>(Principal Investigator for subcontract)</b> PI: G. Hicks Chronic Low Back Pain in Older Adults: The Role of Co-Existing Hip Impairments NIH/National Institute on Aging (R01 AG041202) (University of Delaware) <i>Annual Direct Costs: \$304,874</i> <i>Total Direct Costs: \$1,555,575</i>
7/1/13-10/31/17	(Co-Investigator/Biostatistician) PI: A. Harris Use of Electronic Data to Improve Risk Adjustment for Hospital Infection Rates Agency for Healthcare Research & Quality (R01 HS022291) <i>Annual Direct Costs: \$321,476</i> <i>Total Direct Costs: \$907,193</i>
7/1/13-6/30/15	(Co-Investigator/Biostatistician) PI: R. Brotman

	Vaginal Microbiota, Immune Responses, and Vulvovaginal Symptoms during Menopause NIH/National Institute of Allergy and Infectious Diseases (R21 AI107224) <i>Annual Direct Costs: \$125,000</i> <i>Total Direct Costs: \$275,000</i>
9/30/13-9/29/16	(Co-Investigator/Biostatistician) PI: K. Thom/S. Cosgrove Impact of Post-Antibiotic Prescription Review on Antibiotic Use and Resistance: A Multi-Site Cluster-Randomized Crossover Trial Centers for Disease Control (CDC) <i>Annual Direct Costs: \$363,750</i> <i>Total Direct Costs: \$1,091,250</i>
9/1/14-8/31/18	(Biostatistician) PI: R Semba Systemic Complement and Age-Related Macular Degeneration (R01) NIH/National Eye Institute (R01 EY024596) (Johns Hopkins University) <i>Annual Direct Costs: \$15,388</i> <i>Total Direct Costs: \$56,905</i>
5/1/15-4/30/23	(Biostatistician/Co-Investigator: 5%) PI: R Brotman Longitudinal Study of the Vaginal Microbiome Prior to Incident STI (R01) NIH/National Institute of Allergy and Infectious Disease (R01 AI116799) (University of Maryland) <i>Annual Direct Costs: \$490,450</i> <i>Total Direct Costs: \$2,500,000</i>
9/30/15-4/30/22	<b>(Principal Investigator)</b> Statistical Methods for Vitamin D Targets for Functional Outcomes in Older Adults (R01) NIH/National Institute on Aging (R01 AG048069) <i>Annual Direct Costs: \$301,260</i> <i>Total Direct Costs: \$1,217,760</i>
9/30/15-12/31/18	(Biostatistician) PI: R Semba Oxidative Stress and the Pathogenesis of Sarcopenia and Disability in Older Women (R01) NIH/National Institute on Aging (R01 AG027012) (Johns Hopkins University) <i>Annual Direct Costs: \$250,000</i> <i>Total Direct Costs: \$725,000</i>
9/30/15-6/30/18	(Biostatistician) PI: S. Bhagat/P. Cawthon Muscle Mass and Strength Cut-Points Associated with Mobility Limitation in Older Adults (U01) NIH/National Institute on Aging (U01 AG051421) (Harvard University)
3/23/18-9/7/18	<b>(Principal Investigator)</b> Addressing Disparities in Optimal Vitamin D Levels for Functional Outcomes in Older Adults

2018 NIMHD William G. Coleman, Jr., Ph.D. Minority Health and Health Disparities Research Innovation Award

NIH/National Institute on Minority Health and Health Disparities

*Annual Costs: \$15,000*

*Total Costs: \$15,000*

4/1/18-3/31/23 (Content Expert: No effort) PI: D. Mungas  
Conference on Advanced Psychometric Methods in Cognitive Aging Research (R13)  
NIH/National Institute on Aging (R13 AG030995) (University of California at Davis)  
*Annual Direct Costs: \$50,000*  
*Total Direct Costs: \$250,000*

9/30/20-8/31/21 (Contact Principal Investigator) with MPI R. Brotman  
Methods to Test Lifestyle, Vaginal Microenvironment and Genitourinary Symptoms across Menopause Transition (R56)  
NIH/National Institute on Aging (R56 AG068673)  
*Annual Direct Costs: \$569,876*  
*Total Direct Costs: \$569,876*

1/1/20-12/31/21 (Principal Investigator)  
Introducing Biostatistics to Diverse Pathways in Technology Early College (P-TECH) Students Through Microbiome Data Analysis  
American Statistical Association Biometrics Section  
*Annual Direct Costs: \$3,000*  
*Total Direct Costs: \$3,000*

8/1/20-6/30/22 (Multiple Principal Investigator) Contact PI: J. Magaziner  
Claude D. Pepper Older Americans Independence Center Supplement (P30)  
NIH/National Institute on Aging (P30 AG028747-15S1)  
*Annual Direct Costs: \$249,911*  
*Total Direct Costs: \$249,911*

9/1/20-5/31/24 (Subcontract Principal Investigator: 2%) PI: J Mammen  
Mechanisms of Hypothalamic-Pituitary-Thyroid Axis Aging (R01)  
NIH/JHU (R01 AG064256)  
*Annual Direct Costs: \$23,897*  
*Total Direct Costs: \$47,794*

2/11/21-2/28/24 (Biostatistician/Co-Investigator) PI: S. Tuddenham  
The Rectal Microbiome and Incident Rectal Sexually Transmitted Infections (R21)  
NIH/JHU (R21 AI156765)  
*Annual Direct Costs: \$210,244*  
*Total Direct Costs: \$420,488*

03/01/21-2/29/24 (Principal Investigator)  
Epidemiology of the Inverse Comorbidity of Dementia and Cancer: Statistical Methods and Biological Mechanisms (R03)  
NIH/National Institute on Aging (R03 AG070178)  
*Annual Direct Costs: \$100,000*

*Total Direct Costs: \$200,000*

08/18/22-6/30/25 **(Principal Investigator)**  
Statistical Models and Mechanisms Linking Biomarkers of Aging to Cognitive-Physical Decline and Dementia (R01)  
NIH/NINDS (RF1 NS128360)  
*Annual Direct Costs: \$562,423*  
*Total Direct Costs: \$1,687,269*

12/2/22-12/1/23 **(Principal Investigator)**  
Aging, diabetes, and statistical methods for the genitourinary microbiome  
University of Maryland, Baltimore (UMB) Institute for Clinical & Translational Research (ICTR) Program  
*Annual Direct Costs: \$5,000*  
*Total Direct Costs: \$5,000*

**Completed Contracts**

05/01/07-06/30/12 (Biostatistician) PI: C. Quinn  
Evaluation of a Patient-Provider Diabetes Management Software (RCT)  
*ClinicalTrials.gov Identifier: NCT01107015*  
WellDoc Communications, Inc  
*Annual Direct Costs: \$273,632*  
*Total Direct Costs: \$1,245,010*

12/1/07-11/30/08 (Principal Investigator for subcontract) PI: E. Braver  
Effects of Airbags Certified as Advanced and Compliant with FMVSS 208 on Driver Deaths and Frontal Crashed  
Insurance Institute for Highway Safety  
*Annual Direct Costs: \$98,157*  
*Total Direct Costs: \$98,157*

1/4/09-1/31/14 (Principal Investigator for subcontract) PI: E. Perencevich  
Improving Practice: Automated Compliance Monitoring in Infection Control  
Veterans Administration (VA 1I01HX000107) (University of Iowa)  
*Annual Direct Costs: \$187,200*  
*Total Direct Costs: \$561,600*

2/1/10-9/30/12 (Biostatistician) PI: D. Alley  
Diagnosis of Clinically Important Weakness in Older Adults: The InCHIANTI Study  
FNIH  
*Annual Direct Costs: \$34,782*  
*Total Direct Costs: \$62,500*

2/1/10-1/31/11 (Biostatistician) PI: C. Quinn  
Cellular Glucose Meter for Diabetes Compliance  
Maryland Industrial Partnerships  
*Annual Direct Costs: \$119,672*  
*Total Direct Costs: \$119,672*

4/1/10-3/31/11	(Biostatistician) PI: C. Quinn Cellular Glucose Meter for Diabetes Compliance TelCare LLC <i>Annual Direct Costs: \$33,334</i> <i>Total Direct Costs: \$33,334</i>
9/15/10-9/14/12	(Biostatistician) PI: A. Harris Effect of the Use of Universal Glove and Gowning on Healthcare Associated Infection Rates and Antibiotic Resistant Bacteria <i>ClinicalTrials.gov Identifier: NCT01318213</i> Agency for Healthcare Research & Quality (HHS A290200600015i) <i>Annual Direct Costs: \$486,990</i> <i>Total Direct Costs: \$973,980</i>
7/01/11-3/31/12	(Biostatistician) PI: D. Morgan Centers for Medicare & Medicaid Services and Non-Payment of Catheter-Associated Urinary Tract Infections Society for Healthcare Epidemiology of America <i>Annual Direct Costs: \$47,732</i> <i>Total Direct Costs: \$47,732</i>
09/21/20 – 9/20/21	<b>(Principal Investigator: 26%)</b> Interagency Personnel Agreement NIH IPA (6204557) <i>Annual Direct Costs: \$59,132</i> <i>Total Direct Costs: \$59,132</i>

## Publications

### Peer-Reviewed Journal Articles (\*denotes statistical mentor for student, fellow, trainee, or junior researcher)

1. Simpson CF, Punjabi NM, Wolfendon L, **Shardell M**, Shade DM, Fried LP. Relationship between lung function and physical function in disabled older women. *Journal of Gerontology A, Biological Sciences Medical Sciences*, 2005 60:350-354. PMID: 15860473 (*oversaw data analysis*)
2. Miller RR, Cappola A, **Shardell M**, Yu-Yahiro J, Hawkes W, Hebel RJ, Magaziner J. Persistent changes in interleukin-6 and lower extremity function following hip fracture. *Journal of Gerontology A, Biological Sciences Medical Sciences*, 2006 61:1053-1058. PMID: 17077198 (*planned and performed data analysis, wrote part of the paper*)
3. Resnick B, Orwig D, Hawkes W, **Shardell M**, Golden J, Werner-Bronzert M, Magaziner J. The relationship between psychosocial state and exercise behavior of older women two months post hip fracture. *Rehabil Nurs.*, 2007 32:139-149. PMID: 17650781 (*wrote part of the paper*)
4. Resnick B, Orwig D, Yu-Yahiro J, Hawkes W, **Shardell M**, Hebel JR, Zimmerman S, Golden J, Werner M, Magaziner J. Testing the effectiveness of the exercise plus program in older women post-hip fracture. *Ann Behav Med.*, 2007 34:67-76. PMID: 17688398 (*wrote part of the paper*)
5. Resnick B, Orwig D, D'Adamo C, Yu-Yahiro J, Hawkes W, **Shardell M**, Golden J, Zimmerman S, Magaziner J. Factors that influence exercise activity among women post hip fracture participating in

the exercise plus program. *Clinical Interventions in Aging*, 2007 2:413-427. PMID: 18044192 PMCID: 2685262 (*wrote part of the paper*)

6. **Shardell M**, Scharfstein D, Bozzette SA. Survival curve estimation for informatively coarsened discrete event-time data. *Statistics in Medicine*, 2007 26:2184-2202. PMID: 16998829 (*developed biostatistical methods and wrote the paper*)
7. **Shardell M**, Harris AD, El-Kamary SS, Furuno JP, Miller RR, Perencevich EN. Statistical analysis and application of quasi experiments to antimicrobial resistance intervention studies. *Clinical Infectious Diseases*, 2007 45:901-907. PMID: 17806059 (*wrote the paper, performed simulation study analysis, note: this paper is part of the curriculum of EPI502 "Epidemiology and Biology of Antibiotic Resistance" at the Harvard School of Public Health*)
8. Kamal SM, El Kamary SS, **Shardell MD**, Nasser I, Muhammadi M, Baky AA, Moustafa A, Iman Fathy, Ahmed A, Moniem M, Mansour H, Naggar KE. The role of rapid and early virologic response in determining peginterferon alfa-2b/ribavirin therapy duration in patients with chronic hepatitis C genotype 4. *Hepatology*, 2007 46:1732-1740. PMID: 17943989 (*planned and performed the data analysis, wrote part of the paper*)
9. Miller RR, Hicks GE, **Shardell M**, Cappola A, Hawkes W, Yu-Yahiro J, Keegan A, Magaziner J. Association of serum vitamin D levels with inflammatory response following hip fracture - The Baltimore Hip Studies. *Journal of Gerontology A, Biological Sciences Medical Sciences*, 2007 62:1402-406. PMID: 18166692 (*planned and oversaw data analysis, wrote part of the paper*)
10. **Shardell M**, Miller RR. Weighted estimating equations for longitudinal studies with death and non-monotone missing time-dependent covariates and outcomes. *Statistics in Medicine*, 2008 27:1008-1025. PMID: 17579923 PMCID: 2792882 (*developed biostatistical methods and wrote the paper*)
11. Schneider MG, **Shardell M**. Parkinson's disease and functional decline in older Mexican Americans. *Parkinsonism & Related Disorders*, 2008 14:397-406. PMID: 18343181 (*planned and performed data analysis, wrote part of the paper*)
12. Hicks GE, **Shardell M**, Miller RR, Bandinelli S, Guralnik J, Cherubini A, Lauretani F, Ferrucci L. Associations between vitamin D status and pain in older adults: The InCHIANTI study. *Journal of the American Geriatrics Society*, 2008 56:785-791. PMID: 18331295 PMCID: 2645670 (*planned and performed data analysis, wrote part of the paper*)
13. Miller RR, **Shardell MD**, Hicks GE, Cappola AR, Hawkes WG, Yu-Yahiro JA, Magaziner J. Association of interleukin-6 with lower extremity function following hip fracture-the role of muscle mass and strength. *Journal of the American Geriatrics Society*, 2008 56:1050-1056. PMID: 18410321 PMCID: 2801424 (*planned and oversaw data analysis, wrote part of the paper*)
14. Hirshon JM, **Shardell M**, Alles S, Powell JL, Squibb K, Ondov J, Blaisdell CJ. Elevated ambient air zinc increases pediatric asthma morbidity. *Environmental Health Perspectives*, 2008 116:826-831. PMID: 18560541 PMCID: 2430241 (*planned and performed data analysis, wrote part of the paper*)
15. Lenze EJ, **Shardell M**, Ferrell RE, Orwig D, Yu-Yahiro J, Hawkes W, Fredman L, Miller R, Magaziner J. Association of serotonin-1A and 2A receptor promoter polymorphisms with depressive symptoms and functional recovery in elderly persons after hip fracture. *Journal of Affective Disorders*, 2008 111:61-96. PMID: 18334271 PMCID: 2610462 (*planned and performed data analysis, wrote part of the paper*)
16. Hicks GE, Gaines JM, **Shardell M**, Simonsick EM. Associations of back and leg pain with health status and functional capacity of older adults: Findings from the Retirement Community Back Pain Study. *Arthritis Rheum*, 2008 59:1306-1313. PMID: 18759261 (*oversaw data analysis, wrote part of the paper*)
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Cawthon PM. Grip strength cutpoints for the identification of clinically relevant weakness. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2014 69:559-566. PMID: 24737558 PMCID: 3991145 (**oversaw and performed the data analysis (served as lead statistician for the whole project), wrote part of the paper**)

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159. Borgogna JCL\*, **Shardell MD**, Santori EK, Nelson TM, Rath JM, Glover ED, Ravel J, Gravitt P, Yeoman CJ, Brotman RM. The vaginal metabolome and microbiota of cervical HPV-positive and HPV-negative women: a cross-sectional analysis. *BJOG* 2020 127:182-192. PMID: 31749298 PMCID: 6982399 (*mentored the student, oversaw the analysis, edited the paper for content*)

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161. Kuo P-L\*, Schrack J, **Shardell M**, Levine M, Moore AZ, Yang A, Elango P, Karikkineth A, Tanaka T, de Cabo R, Zukley L, AlGhatrif M, Chia C, Simonsick E, Egan J, Resnick S, Ferrucci L. A roadmap to build a phenotypic metric of aging: insights from the Baltimore Longitudinal Study of Aging. *J Intern Med* 2020;287:373-394. PMID: 32107805 PMCID: 7670826. (*mentored the student, oversaw the analysis, edited the paper for content*)

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164. Borgogna JL\*, **Shardell M**, Yeoman C, Ghanem K, Kadriu H, Ulanov A, Gaydos C, Hardick J, Robinson CK, Bavoil P, Ravel J, Brotman R, Tuddenham S. The association of Chlamydia trachomatis and Mycoplasma genitalium infection with the vaginal metabolome. *Scientific Rep* 2020;10:3420 doi: 10.1038/s41598-020-60179-z. PMID: 32098988 PMCID: 7042340 (*mentored the student, oversaw the analysis, edited the paper for content*)

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*the American Geriatrics Soc 2020 68:1429-37. PMID: 32633824 PMCID: 7508260 (contributed to the analytic design, served as statistical advisor and consultant, interpreted the data)*

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175. **Shardell M**, Cappola AR, Guralnik JM, Hicks GE, Kritchevsky SB, Simonsick EM, Ferrucci L, Semba RD, Chiles Shaffer N, Harris T, Eiriksdottir G, Gudnason V, Cotch MF, Ensrud KE, Cawthon PM. Sex-specific 25-hydroxyvitamin D threshold concentrations for functional outcomes in older adults: Project on Optimal Vitamin D in Older Adults (PROVIDO). *Am J Clin Nutr* 2021 114:16-28. PMID: 33826696 PMCID: 8246604 *(conceived the research question, harmonized the data, planned and performed the data analysis, wrote the paper)*

176. Borgogna JC,\* **Shardell MD**, Grace SG, Santori EK, Americus B, Li Z, Ulanov A, Forney L, Nelson TM, Brotman RM, Ravel J, Yeoman CJ. Biogenic amines increase the odds of bacterial vaginosis and affect the growth of lactic acid production by vaginal *Lactobacillus* spp. *Appl Environ Microbiol* 2021 87:e03068-20. PMID: 33674429 PMCID: 8117770 *(mentored the junior faculty, oversaw the analysis, edited the paper for content)*

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180. Kirk JM,\* Magaziner J, **Shardell M**, Ryan AS, Gruber-Baldini AL, Orwig D, Hochberg MC, Rathbun AM. Depressive symptom heterogeneity among older adults after hip fracture. *Age & Ageing* 2021 50:1943-51. PMID: 34405224 PMCID: 8768453 (*mentored the junior faculty and student, edited the paper for content*)

181. Cawthon PM, Patel SM, Kritchevsky SB, Newman AB, Santanasto A, Kiel DP, Travison TG, Lane N, Cummings SR, Orwoll ES, Kwok T, Hirani V, Schousboe J, Karlsson MK, Mellström D, Ohlsson C, Ljunggren Ö, Xue QL, **Shardell M**, Jordan JM, Pencina KM, Fielding RA, Magaziner J, Correa-de-Araujo R, Bhasin S, Manini TM. What cut-point in gait speed best discriminates community dwelling older adults with mobility complaints from those without? A pooled analysis from the Sarcopenia Definitions and Outcomes Consortium. *J Gerontol Series A: Med Sci Biol Sci* 2021 76:e321-e327. PMID: 34166490 PMCID: 8436986 (*contributed to the analytic design, served as statistical advisor and consultant, interpreted the data, edited the manuscript for content*)

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183. Mirzayi C, Renson A, Genomic Standards Consortium, Massive Analysis and Quality Control Society,...**Shardell M**,...Jones HE, Waldron L. Reporting guidelines for human microbiome research: the STORMS checklist. *Nature Medicine* 2021 27:1885-92. PMID: 34789871 PMCID: 9105086 (*contributed to development and refinement of the checklist, edited the manuscript for content*)

184. **Shardell M**, Speiser JL. Waste not, want not: Proper design, analysis, and interpretation are essential to advancing aging research across the translational science spectrum. *J Gerontol Series A: Med Sci Biol Sci* 2022 77:2165-7. PMID: 35588371 PMCID: 9678189 (*conceived the topic and drafted the article [note: this was an invited article]*)

185. Bajracharya R\*, Guralnik JM, **Shardell MD**, Rathbun AM, Yamashita T, Magaziner JS, Orwig DL. Long-term sex differences in all-cause and infection-specific mortality post hip fracture. *J Am Geriatrics Soc* 2022 70:2107-14. PMID: 35415882 PMCID: 9283265 (*mentored the student, edited the paper for content*)

186. Brown SE, He X, **Shardell MD**, Ravel J, Ghanem KG, Zenilman JM, Brotman RM. Douching cessation and molecular bacterial vaginosis: a re-analysis of archived specimens. *Sexually Transmitted Infections*, in press. PMID: 35636931 PMCID: 9708945 (*mentored the student, edited the paper for content*)

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189. Tamarelle J, **Shardell MD**, Ravel J, Brotman RM. Factors associated with incidence and spontaneous clearance of molecular bacterial vaginosis: results from a longitudinal frequent-sampling observational study. *Sexually Transmitted Diseases* 2022 49:649-56. PMID: 35969846 PMCID: 9387550 (*oversaw the analysis, edited the paper for content*)

190. Bailey MD\*, Gambert S, Gruber-Baldini A, Guralnik J, Kozar R, Qato DM, **Shardell M**, Albrecht JS. Traumatic brain injury and risk of long-term nursing home entry among older adults: an analysis of

Medicare administrative claims data. *J Neurotrauma* 2023 40:86-93. PMID: 35793112 PMCID: 10162579 (*mentored the student, oversaw the analysis, edited the paper for content*)

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192. Bajracharya R\*, Guralnik JM, **Shardell MD**, Hochberg MC, Orwig DL, Magaziner JS. Predictors of mobility status one year post hip fracture among community dwelling older adults prior to fracture: a prospective cohort study. *J American Geriatrics Society* 2023 71:2441-50. PMID: 36918363 PMCID: 10440300 (*mentored the student, oversaw the analysis, edited the paper for content*)

193. Tian Q, **Shardell MD**, Kuo P, Tanaka T, Simonsick EM, Moaddel R, Resnick SM, Ferrucci L. Plasma metabolomic signatures of dual decline in memory and gait in older adults. *Geroscience* 2023 45:2659-67. PMID: 37052768 PMCID: PMC10651620 (*designed and performed the analysis, wrote part of the paper, edited the paper for content*)

194. Brown SE\*, Tuddenham S, **Shardell MD**, Klebanoff MA, Ghanem KG, Brotman RM. Bacterial vaginosis and spontaneous clearance of Chlamydia trachomatis in the Longitudinal Study of Vaginal Flora. *J Infectious Disease* 2023 228:783-91. PMID: 37158693 PMCID: 10503950 (*mentored the student, oversaw the analysis, edited the paper for content*)

195. Falvey JR\*, Chen C, Johnson A, Ryan KA, **Shardell M**, Ren H, Reider L, Magaziner J. Associations of days spent at home before hip fracture with post-fracture days at home and 1-year mortality among Medicare beneficiaries living with Alzheimer's disease or related dementias. *J Gerontol Series A: Med Sci Biol Sci*, in press. (*mentored the junior faculty, edited the paper for content*)

196. Rathbun AM\*, **Shardell MD**, Gallo JJ, Ryan AS, Stuart EA, Schuler MS, Dong Y, Beamer B, Mehta R, Peer JE, Hochberg MC. Time-varying treatment effect moderation of oral analgesic effectiveness by depressive symptoms in knee osteoarthritis: an application of structural nested mean models in a prospective cohort. *International Journal of Epidemiology*, in press. (*mentored the junior faculty, oversaw the analysis, edited the paper for content*)

197. Holm JB\*, France MT, Gajer P, Ma B, Brotman RB, **Shardell M**, Forney L, Ravel J. Integrating compositional and functional content to describe vaginal microbiomes in health and disease. *Microbiome*, in press. (*mentored the junior faculty, oversaw portions of the analysis, edited the paper for content*)

198. Shen B, Ren H, **Shardell M**, Falvey, J, Chen C\*. Analyzing risk factors for post-acute recovery in older adults with Alzheimer's disease and related dementia: a new semi-parametric model for large-scale Medicare claims. *Statistics in Medicine*, in press. (*mentored the junior faculty, oversaw portions of the analysis, edited the paper for content*)

199. Rathbun AM\*, Mehta R, Ryan AS, Dong Y, Beamer B, Golden J, Gallo JJ, Luborsky M, **Shardell MD**, Peer JE, Hochberg MC. Duloxetine plus exercise for knee osteoarthritis and depression: a feasibility study. *Osteoarthritis & Cartilage Open*, in press. (*mentored the junior faculty, oversaw portions of the analysis, edited the paper for content*)

200. Mehta R\*, Hochberg M, **Shardell M**, Ryan A, Dong Y, Beamer B, Peer J, Stuart E, Schuler M, Gallo J, Rathbun A\*. Evaluation of dynamic effects of depressive symptoms on physical function in knee osteoarthritis. *Arthritis Care & Research*, in press. (*mentored the student and junior faculty, oversaw portions of the analysis, edited the paper for content*)

201. Stennett CA\*, France M, **Shardell M**, Robbins SJ, Brown SE, Johnston ED, Mark K, Ravel J, Brotman RM. Longitudinal profiles of the vaginal microbiota of pre-, peri-, and postmenopausal women: Preliminary insights from a secondary data analysis. *Menopause*, in press. (*mentored the student, oversaw the analysis, edited the paper for content*)

202. **Shardell M**, Chen C, McCoy RG. Doubly robust causal modeling: An application of the technique to evaluate device implantation. *JAMA Internal Med*, 2024 184(7):834-835. (*conceived the topic and drafted the article [note: this was an invited article]*)

203. Mehta R\*, Orwig DL, Chen C, Dong Y, **Shardell MD**, Yamashita T, Falvey JR. Association between pre-hip fracture depression and days at home after fracture and assessing sex differences. *J American Geriatrics Society*, in press. (*mentored the student, oversaw the analysis, edited the paper for content*)

204. Chen C\*, Han P, Chen S, **Shardell M**, Qin J. Integrating external summary information in the presence of prior probability shift: an application to assessing essential hypertension. *Biometrics*, in press. (*mentored the junior faculty, edited the paper for content*)

205. Kirk JM\*, Rathbun AM, Gruber-Baldini AL, Hochberg MC, Magaziner J, **Shardell MD**, Orwig D. Sex differences and predictors of anti-osteoporosis medication use in the 12 months after hip fracture surgery in adults 65 or older. *Osteoporosis International*, in press. (*mentored the student, oversaw aspects of the analysis, edited the paper for content*)

206. **Shardell M**, Rathbun AM, Gruber-Baldini A, Ryan AS, Guralnik J, Kapogiannis D, Simonsick EM. The inverse association between cancer history and incident cognitive impairment: addressing attrition bias. *Alzheimer's & Dementia*, in press. (*conceived the research question, planned and performed the data analysis, wrote the paper*)

207. Chen C\*, Murphy TE, Speiser JL, Bandeen-Roche K, Allore H, Travison TG, Griswold M, **Shardell M**. Gerontologic Biostatistics and Data Science: Aging research in the era of big data. *J Gerontol Series A Med Sci*, in press (*conceived the idea, mentored the junior faculty, wrote part of the paper and edited the paper for content*)

208. Pan Y, Bi C, Kochunov P, **Shardell M**, Smith JC, McCoy RG, Ye Z, Yu J, Lu T, Yang Y, Lee H, Liu S, Gao S, Ma Y, Li Y, Chen C, Ma T, Wang Z, Nichols T, Hong LE, Chen S. Brain-wide functional connectome analysis of 40,000 individuals reveals brain networks that show aging effects in older adults. *Imaging Neuroscience*, in press. (*edited the paper for content*)

209. Mehta R\*, Falvey JR, Chen C, Dong Y, **Shardell MD**, Yamashita T, Orwig DL. Association between pre-hip fracture antidepressant use and post-hip fracture length of hospital stay in Medicare beneficiaries and assessing sex differences. *American J Geriatric Psychiatry*, in press. (*mentored the student, oversaw the analysis, edited the paper for content*)

210. **Shardell M**, Chen C. Genetic geroscience and Alzheimer's disease: The pleiotropy is the point! *J Alzheimer's Disease*, in press. (*conceived the idea, drafted the paper*)

211. Rathbun AM\*, Ryan AS, **Shardell MD**, Dong Y, Beamer BA, Luborsky M, Hochberg MC. Association Between Depressive Symptoms and Physical Activity in Knee Osteoarthritis. *J Rheumatology*, in press. (*mentored the junior faculty, edited the paper for content*)

212. Cappola AR, Abraham DS, Kroopnick JM, Huang Y, Hochberg MC, Miller RR, **Shardell M**, Hicks GE, Orwig D, Magaziner J. Sex-specific associations of vitamin D and bone biomarkers with bone density and physical function during recovery from hip fracture: The Baltimore Hip Studies. *Osteoporosis International*, in press. (*edited the paper for content*)

213. Chen C, Chen S, Ye Z, Shi X, Ma T, **Shardell M**. The effect of alcohol intake on brain white matter microstructural integrity: a new causal inference framework for incomplete phenomic data. *Journal of the American Statistical Association*, in press. (*contributed to the data application, edited the paper for content*)

214. Shen B, Zhang, Travison T, **Shardell M**, McCoy RG, Saegusa T; Falvey J. A joint learning framework for analyzing data from national geriatric centralized networks: A new toolbox deciphering a real-world complexity. *Journal of Biomedical Informatics*, in press. (*contributed to the data application, edited the paper for content*)

## Non-peer reviewed publications

1. **Shardell M**, Scharfstein D, Galai N, Vlahov D, Bozzette SA. Sensitivity analysis for informatively interval-censored discrete time-to-event data. *Collection of Biostatistics Research Archive, Johns Hopkins University, Dept. of Biostatistics Working Papers* 2004 Working Paper 36. <http://www.bepress.com/jhubiostat/paper36>
2. **Shardell M**, Scharfstein D, Vlahov D, Galai N. Inference for survival curves with informatively coarsened discrete event-time data: Application to ALIVE. *Collection of Biostatistics Research Archive, Johns Hopkins University, Dept. of Biostatistics Working Papers* 2007 Working Paper 150. <http://www.bepress.com/jhubiostat/paper150>
3. El-Kamary SS, **Shardell MD**, Hashem M, Strickland GT. Silymarin for the treatment of acute hepatitis: Author's reply to commentary. *Focus on Alternative and Complementary Therapies*, 2009; 14:182.
4. Borgogna JCL\*, **Shardell MD**, Santori EK, Nelson TM, Rath JM, Glover ED, Ravel J, Gravitt P, Yeoman CJ, Brotman RM. Reply to letter by Zhang et al on "The vaginal metabolome and microbiota of cervical HPV-positive and HPV-negative women: a cross-sectional analysis" by Brogogna et al. *British Journal of Obstetrics & Gynecology*, 2020 127:773-774. PMID: 32154972
5. **Shardell M**, Natanegara F, SPAIG Committee. Biopharmaceutical section cracks code on cross-sector collaborations. *Amstat News* 2020 November 521:10-11. <https://magazine.amstat.org/blog/2020/11/01/spaiginterview/>
6. **Shardell M**, Jensen W, Kolassa J, Ellis R. 2021 SPAIG Award honors two collaborations. *Amstat News* 2021 October 532:37-39. <https://magazine.amstat.org/blog/2021/10/01/2021-spaig-award/>
7. **Shardell M**. Biometrics section grant helps introduce field to high-school students. *Amstat News* 2021 November 533:35. <https://magazine.amstat.org/blog/2021/11/01/biometrics-7/>
8. **Shardell M**. The ASA Biometrics Section Strategic Initiatives Grant Spotlight. *ASA Biometrics Section Newsletter* 2021 November. <https://community.amstat.org/biometricsbiom/new-item3>
9. Clark WS, **Shardell M**. 2022 SPAIG Award honors health care collaboration. *Amstat News* 2022 October 543:30-31. <https://magazine.amstat.org/blog/2022/10/01/2022-spaig-award/>
10. Wang X, **Shardell M**. 2023 SPAIG Award Honors UNC, Merck, NCI Collaboration. *Amstat News* 2023 December 544:8-9. <https://magazine.amstat.org/blog/2023/12/01/2023spraig/>
11. **Shardell M**, Goldie S, Morris E, Albert P, Shen W. American Statistical Association Statistical Partnerships Among Academe, Industry, and Government Committee hosts webinar on industry and government internships. *ICSA Bulletin* 2024 Jan:19-20. <https://www.icsa.org/wp-content/uploads/2024/02/ICSA-bulletin-2024-Jan-issue-final.pdf>
12. **Shardell M**, Wang X. 2024 SPAIG Award Honors Collaboration Between 41 Organizations. *Amstat News* 2025 January 546. <https://magazine.amstat.org/blog/2025/01/02/2024-spaig-award/>

### Book Chapters

1. Alley DE, Lloyd J, **Shardell M**. Can obesity account for cross-national differences in life expectancy trends? In Crimmins EM, Preston SH, Cohen B (Eds). *International Differences in Mortality at Older Ages: Dimensions and Sources* (pp. 164-192). Washington, DC: National Academies Press, 2011. *(performed the analysis and wrote the results)*
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### Published Abstracts (\*denotes statistical mentor for student, fellow, trainee, or junior researcher)

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121. Chen C, **Shardell M**, Falvey J. A new analytical method for risk factor identification in analyzing longitudinal postfracture recovery outcomes. *Innovations in Aging* 2024 8 (suppl 1):638.

122. Ahmad A, **Shardell M**, Kalyani R, Semba R, Ferrucci L. Examining the relationship between alpha-klotho, insulin resistance, and diabetes in older adults. *Innovations in Aging* 2024 8 (suppl 1):702.

123. Rathbun A, Hochberg M, **Shardell M**, Ryan A, Orwig D, Magaziner J. Sex-specific biomarker prediction of femoral neck bone loss after hip fracture. *Innovations in Aging* 2024 8 (suppl 1):704.

124. Borgogna JL, Holm J, Ravel J, Brotman R, Voyich J, Yeoman C, **Shardell M**. Metabolomic and immunologic insights into racial differences in reproductive aging. *Innovations in Aging* 2024 8 (suppl 1):810.

125. Dias JP, Fitzgerald KC, **Shardell M**, Wolinsky S, Lake J, Koletar SL, Basaria S, Brown T. Free testosterone, sex hormone binding globulin, and incident frailty in men with HIV. *Innovations in Aging* 2024 8 (suppl 1):860.

126. Luborsky M, Hochberg M, Ryan A, Dong Y, Beamer B, **Shardell M**, Rathbun A. Knee osteoarthritis: perceptions of psychosocial consequences, pain, and management complexities. *Innovations in Aging* 2024 8 (suppl 1):935.

127. Oberdier M, Zampino M, **Shardell M**, AlGhatri M, Lakatta E, Simonsick E, Ferrucci L. Red blood cell distribution width: further insights. *Innovations in Aging* 2024 8 (suppl 1):1270.

128. Shrestha A, **Shardell M**, Chen C, Seliger SL, Ginsberg C, Miller LM, Cawthon PM. Urinary biomarkers and joint cognition-gait trajectories: findings from the Health, Aging, and Body Composition (ABC) Study. *J Am Soc Nephrol* 2025 36(10S):10.1681.

## **Major Invited Speeches**

### **Local**

1. Anxiety and Functional Decline in Disabled Older Community-Dwelling Women: Exploratory Results and an Analysis Plan (with Simpson CF), *Geriatric Grand Rounds*, The Johns Hopkins Medical Institute Geriatrics Center, Baltimore, Maryland; 2003.
2. Sensitivity Analysis for Informatively Interval-Censored Discrete Failure-Time Data, Department of Epidemiology and Preventive Medicine, University of Maryland, Baltimore, Maryland; 2004.
3. Analyzing Longitudinal Data with Death, Drop-out, and Intermittent Nonresponse: Baltimore Hip Studies 3, Department of Epidemiology and Preventive Medicine, University of Maryland, Baltimore; 2006.
4. Biostatistical Methods and Reasoning, Research Ethics Training Program in Egypt, University of Maryland, Baltimore; 2006.
5. Biostatistical Methods and Reasoning, Research Ethics Training Program in Egypt, University of Maryland, Baltimore; 2007.
6. Analysis with Missing Data, T32 Training Program in the Epidemiology of Aging, University of Maryland, Baltimore; 2007.
7. Basics in Biostatistics, Research Ethics Training Program in Egypt, University of Maryland, Baltimore; 2008.
8. Biostatistical Methods and Reasoning, Research Ethics Training Program in Egypt, University of Maryland, Baltimore; 2008.
9. Basics in Biostatistics, Research Ethics Training Program in Egypt, University of Maryland, Baltimore; 2009.
10. Biostatistical Methods and Reasoning," Research Ethics Training Program in Egypt; University of Maryland, Baltimore; 2009.
11. Vitamin D and Transitions in Frailty, Division of Gerontology, Department of Epidemiology and Preventive Medicine, University of Maryland, Baltimore; 2010.
12. Joint Effects of Physical Activity and Vitamin D on Longevity: NHANES III, Division of Gerontology, Department of Epidemiology and Public Health, University of Maryland, Baltimore; 2011.
13. Doubly Robust Estimation and Causal Inference in Longitudinal Studies with Dropout and Truncation by Death, Division of Biostatistics and Bioinformatics, Department of Epidemiology and Public Health, University of Maryland, Baltimore; 2013.
14. Hierarchical Clustering in –Omics Research. National Institute on Aging; Baltimore, Maryland; 2014.
15. Addressing Mortality in Longitudinal Studies of Older Adults. National Institutes of Health Research Festival; Bethesda, Maryland; 2014.
16. Addressing Mortality in Longitudinal Studies of Older Adults. National Institute on Aging; Baltimore, Maryland; 2014.
17. Proteomic Epidemiology. National Institute on Aging; Baltimore, Maryland; 2014.
18. Introduction to Counterfactual Thinking in Epidemiology. National Institute on Aging; Baltimore, Maryland; 2015.
19. Creativity and Innovation in Epidemiology Research. National Institute on Aging; Baltimore, Maryland; 2015.
20. Fuzzy C-Means Clustering. National Institute on Aging; Baltimore, Maryland; 2015.

21. Quantitative Science: Biostatistics and Epidemiology of Aging, National Institute on Aging; Baltimore, Maryland; 2015.
22. Analyzing data from iTRAQ experiments. National Institute on Aging; Baltimore, Maryland; 2016.
23. Panel Discussant, Careers in Aging Panel Discussion. University of Maryland Baltimore County; Baltimore, Maryland; 2017.
24. Working with the Baltimore Longitudinal Study on Aging: Challenges and Guidelines. Longitudinal Studies Section National Institute on Aging; Baltimore, Maryland; 2017.
25. Working with the Baltimore Longitudinal Study on Aging: Challenges and Guidelines. National Institute on Aging; Baltimore, Maryland; 2017.
26. Negative Confounding in Observational Epidemiology. National Institute on Aging; Baltimore, Maryland; 2018.
27. Meta-Analysis Methods in Proteomics Data Analysis. National Institute on Aging; Baltimore, Maryland; 2018.
28. Proteomics and Vitamin D in the InCHIANTI Study. National Institute on Aging; Baltimore, Maryland; 2018.
29. Addressing Unmeasured Confounding in Vitamin D Research. National Institute on Aging; Baltimore, Maryland; 2018.
30. Vitamin D and Inflammation. National Institute on Aging; Baltimore, Maryland; 2018.
31. Project on Optimal Vitamin D in the Elderly: A Pooled Cohort Analysis. National Institute on Aging; Baltimore, Maryland; 2019.
32. Methods for Overcoming Bias from Truncation by Death and Selective Survival in Studies of Older Adults. National Institute on Aging; Baltimore, Maryland; 2019.
33. Sex-specific 25-hydroxyvitamin D threshold concentrations for functional outcomes in older adults: Project on Optimal Vitamin D in Older Adults (PROVIDO). Claude D. Pepper External Advisory Board Meeting; virtual (originally scheduled for University of Maryland Baltimore); 2021.
34. Tips and Best Practices for Leveraging Secondary Data for Aging Research. UMB/UMBC Gerontology Program Aging Forum; virtual; 2021.
35. Introduction to P-values and the Multiple Comparisons Debate. IGS Campus Outreach Committee Seminar. Institute for Genome Sciences, University of Maryland School of Medicine; Baltimore, Maryland; 2022.
36. Current Biostatistics Research in Aging. University of Maryland Baltimore Claude D. Pepper Center Meeting; University of Maryland Baltimore; 2023.
37. Five Pro Tips for Successful Biostatistics Grant Writing. Division of Biostatistics and Bioinformatics, University of Maryland School of Medicine; Baltimore, Maryland; 2023.
38. Addressing Informative Observation Times in the US Medicare Minimum Data Set. Claude D. Pepper External Advisory Board Meeting; University of Maryland Baltimore; 2024.
39. Research with Real-World Data: Analytical Challenges and Opportunities. UMB ICTR Enrichment Series; University of Maryland Baltimore; 2025.
40. From Data to Discovery: Tapping into Cohort Studies of Older Adults. University of Maryland, College Park; College Park, MD; 2025.

## **National**

1. Sensitivity Analysis for Informatively Interval-Censored Discrete Failure-Time Data, Center for Statistical Science, Brown University, Providence, Rhode Island; 2004.
2. Managing Missing Data in Behavior Change Research, Society of Behavioral Medicine, Washington, DC; 2007.
3. Analysis of Informatively Coarsened Data: A Sensitivity Analysis Approach,” FDA/Industry Statistics Workshop sponsored by the American Statistical Association, Arlington, Virginia; 2008.

4. Associations of 25(OH)D Levels with Decline and Recovery from the Prefrail State: The InChianti Study, Gerontological Society of America Annual Meeting, Atlanta, Georgia; 2009.
5. Using Elicited Expert Information in Studies of HIV Risk Factors: The AIDS Link to the Intravenous Experience (ALIVE) Study, New York City Department of Health and Mental Hygiene Grand Rounds, New York, New York; 2010.
6. Joint Effects of Physical Activity and Vitamin D on Longevity: NHANES III, Gerontological Society of America Annual Meeting, New Orleans, Louisiana; 2010.
7. Causal Inference in Observational Aging Research, Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland; 2012.
8. Biomarkers Consortium: Statistical Methods for Defining Sarcopenia (with DE Alley), Sarcopenia Consensus Summit, Baltimore, Maryland; 2012.
9. Addressing Missing Data using Proxy Reports Subject to Misclassification, Gerontological Society of America Annual Meeting, San Diego, California; 2012.
10. Proxy Respondents to Evaluate Health Status in Patients with Hip Fracture: Challenges, Opportunities, and Lessons (with A Jones), Gerontological Society of America Annual Meeting; San Diego, California; 2012.
11. Doubly Robust Estimation and Causal Inference in Longitudinal Studies with Dropout and Truncation by Death, University of Maryland School of Public Health; College Park, Maryland; 2013.
12. Causal Inference in Studies of Older Adults with Dropout and Death: Vitamin D and Gait Speed in InChianti, Gerontological Society of America Annual Meeting; New Orleans, Louisiana; 2013.
13. Causal Inference in Studies of Older Adults with Dropout and Death: Vitamin D and Gait Speed in InChianti, Translational Gerontology Branch, National Institute on Aging; Baltimore, Maryland; 2013.
14. Vitamin D, “Anti-Aging” Hormone Klotho, and Functional Outcomes in Older Adults, University of Maryland School of Medicine; Baltimore, Maryland; 2015.
15. Vitamin D, “Anti-Aging” Hormone Klotho, and Functional Outcomes in Older Adults, Johns Hopkins Medical Institutions; Baltimore, Maryland; 2015.
16. Epidemiologic Research in Older Adults: Barriers, Challenges, and Recommendations, Gerontological Society of America Workshop on Human-Animal Interaction Research; Washington, DC; 2016.
17. Vitamin D and Functional Outcomes in Older Adults, University of Maryland School of Medicine; Baltimore, Maryland; 2016.
18. The Proteomic Milieu of Low Vitamin D: Methods, Mechanisms, and Beyond. University of Maryland Institute for Genomic Sciences; Baltimore, Maryland; 2018.
19. Project on Optimal Vitamin D in the Elderly (PROVIDE): Rationale, Design, and Methods. Cross Cohorts Collaboration Working Group Webinar; 2018.
20. Exploring the Longitudinal Relationship between Depression and Pain in Knee Osteoarthritis. Johns Hopkins Medical Institutions; Baltimore, Maryland; 2018.
21. Invited Discussant for “An Analytics Toolbox Facilitating Reproducible Interventional and Observational Science in Aging,” Gerontological Society of America Annual Meeting; Boston, Massachusetts; 2018.
22. Methods for Overcoming Bias from Truncation by Death and Selective Survival in Studies of Older Adults. University of California, San Diego; San Diego, California; 2019.
23. Analytical Considerations of Developing a Phenotypic Aging Measure: The Conceptual Framework Must Come First. Gerontological Society of America Annual Meeting; Austin, Texas; 2019.
24. Addressing Nonignorably Missing Proxy-Reported Exposure Data. Joint Statistical Meetings; virtual (originally scheduled for Philadelphia, Pennsylvania); 2020.
25. Comparing Analytical Methods for Gut Microbiome and Aging: Gut Microbiota and Body Weight in MrOS. Gerontological Society of America Annual Meeting; virtual (originally scheduled for Philadelphia, Pennsylvania); 2020.
26. Exploring the Longitudinal Relationship between Depression and Pain in Knee Osteoarthritis. Johns

Hopkins Medical Institutions; Baltimore, Maryland (virtual); 2020.

27. Panel Discussant, Epidemiology and Biostatistics of Aging Alumni Career Panel. Johns Hopkins Medical Institutions; Baltimore, Maryland (virtual); 2020.
28. Sensitivity Analysis for Nonignorable Missingness and Outcome Misclassification from Proxy Reports. Joint Statistical Meetings; virtual (originally scheduled for Seattle, Washington); 2021.
29. Vaginal Microbiota and the Genitourinary Syndrome of Menopause. American Society of Reproductive Medicine; Baltimore, Maryland; 2021.
30. Sex-specific 25-hydroxyvitamin D threshold concentrations for functional outcomes in older adults: Project on Optimal Vitamin D in Older Adults (PROVIDO). Gerontological Society of America Annual Meeting; virtual (originally scheduled for Phoenix, Arizona); 2021.
31. Joint mixed-effects models for causal inference with longitudinal data. Georgetown University, Washington DC; 2022.
32. Vaginal microbiota and the genitourinary syndrome of menopause. Society for the Study of Reproduction Annual Conference; Spokane, Washington; 2022.
33. Challenges and Opportunities for Funding Statistical Innovation (Invited Panel). Joint Statistical Meetings; Washington, DC; 2022.
34. Epidemiology of the inverse comorbidity of dementia and cancer: biostatistical challenges and opportunities. National Institute on Aging Workshop: The Cancer-Alzheimer's Disease Nexus; virtual; 2022.
35. Addressing truncation by death and unmeasured confounding in aging research. University of California San Francisco; San Francisco, CA; 2022.
36. Addressing truncation by death and unmeasured confounding in aging research. New York University; New York, NY; 2023.
37. Sex-specific 25-hydroxyvitamin D threshold concentrations for functional outcomes in older adults: Project on Optimal Vitamin D in Older Adults (PROVIDO). Johns Hopkins Medical Institution; Baltimore, MD; 2023
38. Associations of urinary conditions with vaginal microbiota and metabolites across reproductive stages. Gerontological Society of America Annual Meeting; Tampa, FL; 2023.
39. SPAIG Committee (Invited Panel). American Statistical Association Biopharmaceutical Section Podcast; 2024. <https://www.buzzsprout.com/16296/14471619-episode-107-spaig-committee>
40. Time-varying latent effect models for repeated measurements to address informative observation times in the U.S. Medicare Minimum Data Set. Eastern North American Region of the International Biometric Society Spring Meeting; Baltimore, MD; 2024.
41. Data Harmonization in Research on Epidemiology of Aging. National Institute on Aging Webinar Series on Common Data Elements; virtual; 2024.
42. Determinants of Recovery in the US Medicare Minimum Data Set: Handling Informative Observation Times. Gerontological Society of America Annual Meeting; Seattle, WA; 2024.
43. Invited Discussant for “Trustworthy AI”; American Statistical Association Influencing Discovery Exploration and Action (IDEA) Forum; virtual and Alexandria, VA; 2024
44. Reflections from Our Outgoing ASA Board Members (Invited Panel). American Statistical Association Practical Significance Podcast; 2024. <https://magazine.amstat.org/blog/podcast/outgoingboard/>
45. Five Pro Tips for Successful Biostatistics Grant Writing. National Pepper Centers Annual Meeting; Bethesda, MD; 2025.
46. Epi, AI, and Big Data in Pharmaco-Epi. American Diabetes Association; Chicago, IL; 2025.
47. Time-Varying Latent Effect Models for Repeated Measurements to Address Informative Observation Times in the U.S. Medicare Minimum Data Set. Joint Statistical Meetings, Nashville, TN; 2025.
48. The Inverse Association Between Cancer and Dementia: is it Still Counterintuitive? Gerontological Society of America Annual Meeting; Boston, MA; 2025.
49. Interplay of Technology and Application of Gerontologic Biostatistics and Data Science for Careers in

Aging. Gerontological Society of America Annual Meeting; Boston, MA; 2025.

## **International**

1. Sensitivity Analysis for Informatively Interval-Censored Discrete Failure-Time Data, Biostatistical Centre, Katholieke Universiteit; Leuven, Belgium; 2004.
2. Basics in Biostatistics, National Hepatology and Tropical Medicine Research Institute, Cairo, Egypt; 2006.
3. Statistical Methods and Other Requirements Needed for International Publication of Clinical Trials, National Hepatology and Tropical Medicine Research Institute, Cairo, Egypt; 2007.
4. Basics in Biostatistics, Al-Azhar University Faculty of Medicine, Cairo, Egypt; 2009.
5. Biostatistical Methods and Reasoning, Al-Azhar University Faculty of Medicine, Cairo, Egypt; 2009.
6. How to Publish Clinical Trials: The CONSORT Statement, 14<sup>th</sup> Annual Delta Digestive Week. Tanta Fever Hospital, Ministry of Health and Populations, Tanta, Egypt; 2009.
7. Basics in Biostatistics, Ain Shams University Faculty of Medicine, Cairo, Egypt; 2010.
8. Combining shared parameter models with structural models to overcome death bias in aging research. International Association of Gerontology and Geriatrics World Congress, San Francisco, California; 2017.
9. Invited Panelist, Toward a Consensus on Sarcopenia: Establishing the Link with Mobility Limitation and Other Health Outcomes. The Biomarkers Consortium; Bethesda, Maryland; 2017.
10. Time-Varying Latent Effect Models for Repeated Measurements to Address Informative Observation Times in the U.S. Medicare Minimum Data Set. International Biometric Conference, Atlanta, Georgia; 2024.

## **Proffered Communications**

1. **Shardell M**, Scharfstein DO, Bozzette SA. On the Analysis of Informatively Interval-Censored Discrete Failure-Time Data: A Sensitivity Analysis Approach. Eastern North American Region of the International Biometric Society Annual Meeting, Pittsburgh, Pennsylvania; 2004.
2. **Shardell M**, Scharfstein DO, Galai N, Vlahov D. Survival Curve Estimation for Informatively Coarsened Discrete Event-Time Data. Eastern North American Region of the International Biometric Society Annual Meeting, Tampa, Florida; 2006.
3. Schweizer ML, Furuno JP, Harris AD, Johnson JK, **Shardell MD**, McGregor JC, Thom KA, Perencevich EN. Reducing Unnecessary use of Empiric Anti-Methicillin-Resistant Staphylococcus aureus (MRSA) Antibiotics. Interscience Conference on Antimicrobial Agents and Chemotherapy, Chicago, Illinois; 2007.
4. **Shardell M**, Scharfstein DO, Galai N, Vlahov D. Inference for Survival Curves with Informatively Coarsened Discrete Event-Time Data: Application to ALIVE. Eastern North American Region of the International Biometric Society Annual Meeting, Atlanta, Georgia; 2007.
5. Rich S, **Shardell M**, Margolis D, Baumgarten M. Pressure Ulcer Preventive Device Use among Elderly Patients Early in the Hospital Stay. National Student Research Forum, University of Texas Medical Branch, Galveston, Texas; 2007.
6. Hebden JN, **Shardell M**, Thom KA, Standiford HC, Perencevich EN, Harris AS. Impact of an Aggressive Infection Control Plan on Hospital-Wide *Acinetobacter baumannii*. Interscience Conference on Antimicrobial Agents and Chemotherapy, Washington, DC; 2008.
7. **Shardell M**, Miller RR. Weighted Estimating Equations for Longitudinal Studies with Death and Non-Monotone Missing Time-Dependent Covariates and Outcomes. Eastern North American Region of the

International Biometric Society Annual Meeting, Arlington, Virginia; 2008.

8. Schweizer ML, Furuno JP, Harris AD, Johnson JK, **Shardell MD**, McGregor JC, Thom KA, Perencevich EN. Nafcillin or 1<sup>st</sup> Generation Cephalosporins (Naf/Ceph1) are Superior Antibiotics for Methicillin-Susceptible *S. aureus* (MSSA) Bacteremia. Interscience Conference on Antimicrobial Agents and Chemotherapy, San Francisco, California; 2009.
9. Rich SE, Margolis D, **Shardell M**, Hawkes WG, Miller RR, Amr S, Baumgarten M. Non-Adherence to Manual Repositioning Guidelines for Pressure Ulcer Prevention in Bedbound Hospitalized Hip Fracture Patients. Gerontological Society of America, National Harbor, Maryland; 2008.
10. **Shardell MD**, El-Kamary SS. Calculating Sample Size for Studies with Expected All-or-none Nonadherence and Selection Bias. Eastern North American Region of the International Biometric Society Annual Meeting, San Antonio, Texas; 2009.
11. El-Kamary SS, **Shardell MD**, Perencevich EN, Harris AD, Schweizer ML, Patel DM, Furuno JP. Incidence and Risk Factors for Hospital-Acquired Methicillin-Resistant *Staphylococcus aureus* Infection among Children in a Tertiary Care Facility. Pediatric Academic Societies Annual Meeting, Baltimore, Maryland; 2009.
12. Rich SE, Margolis D, **Shardell M**, Hawkes WG, Miller RR, Amr S, Baumgarten M. Use and Effectiveness of Frequent Manual Repositioning for Pressure Ulcer Prevention among Bedbound Hip Fracture Patients. American Public Health Association Annual Meeting, Philadelphia, Pennsylvania; 2009.
13. Eber MR, **Shardell M**, Schweizer ML, Laxminarayan R, McGregor JC, Perencevich EN. Seasonal Variation in the Incidences of Bacterial Infection among Hospitalized Patients: Summer Peaks in Gram-Negative Infections. Decennial International Conference on Healthcare-Associated Infections, Atlanta, Georgia; 2010.
14. Eber M, **Shardell M**, Schweizer M, Laxminarayan R, McGregor JC, Perencevich EN. US National Assessments of the Impact of Outdoor Ambient Temperature on Clinical Acinetobacter Isolates. Interscience Conference on Antimicrobial Agents and Chemotherapy, Boston, Mass; 2010.
15. Schweizer ML, Perencevich EN, Eber MR, **Shardell MD**, Laxminarayan R. Optimizing Antibiotic Prescribing: Are Physicians Following National Trends in MRSA Infections Rather than Local Data When Treating MRSA Wound Infections? Interscience Conference on Antimicrobial Agents and Chemotherapy, Boston, Mass; 2010.
16. **Shardell M**, Hicks GE, Miller RR, Magaziner J. Semiparametric Regression Models for Repeated Measures of Mortal Cohorts with Non-Monotone Missing Outcomes and Time-Dependent Covariates. Eastern North American Region of the International Biometric Society Annual Meeting, New Orleans, Louisiana; 2010.
17. Quinn CC, **Shardell M**, Terrin M, Gruber-Baldini A. A Cluster-Randomized Trial of a Mobile Phone Personalized Behavioral Intervention for Blood Glucose Control. Scientific Meeting of the American Diabetes Association, San Diego, California; 2011.
18. **Shardell M**. Sensitivity Analysis to Address Informative Missingness and Outcome Misclassification from Proxy Reports in Aging Research. Eastern North American Region of the International Biometric Society Annual Meeting, Washington, DC; 2012.
19. **Shardell M**. Statistical Analysis with Missing Exposure Data Measured by Proxy Respondents: A Misclassification Problem within a Missing-Data Problem. Eastern North American Region of the International Biometric Society Annual Meeting, Orlando, Florida; 2013.
20. **Shardell M**. Doubly Robust Estimation and Causal Inference in Longitudinal Studies with Dropout and Truncation by Death. Eastern North American Region of the International Biometric Society Annual Meeting, Baltimore, Maryland; 2014.
21. Alfaras Cardenal I, Mitchell SJ, Wahl D, Gutierrez V, Camiletti D, Zhang N, **Shardell M**, Studenski S, Ferrucci L, Bernier M, de Cabo R. Predictors of mortality in mice and humans. Molecular Genetics of Aging Meeting, Cold Spring Harbor, NY; 2014.

22. **Shardell M.** Overcoming Violations of an Instrumental Variable Assumption. NIH Pi Day, Bethesda, MD; 2015.
23. **Shardell M.** Overcoming Violations of an Instrumental Variable Assumption. Joint Statistical Meetings, Seattle, WA; 2015
24. **Shardell M.** Serum 25-hydroxyvitamin D, plasma klotho, and lower-extremity physical performance among older adults: Findings from the InCHIANTI Study. NIH Research Festival, Bethesda, MD; 2015.
25. Hicks G, **Shardell M**, Miller RR, Orwig D, Hochberg M, Magaziner J. Trunk muscle composition 2 months after hip fracture: The Baltimore Hip Studies. International Conference on Frailty & Sarcopenia Research, Boston, Massachusetts; 2015.
26. Rathbun AM, **Shardell M**, Orwig D, Hebel JR, Hicks GE, Beck TJ, Hochberg MC, Magaziner J. A Comparison of the Trajectory of Change in Bone Mineral Density Measured at the Total Hip and Femoral Neck between Men and Women Following Hip Fracture. The Society for Epidemiological Research Annual Meeting, Denver, Colorado; 2015.
27. Buta B, Choudhury PP, Xue QL, Chaves P, Bandeen-Roche K, Walston J, Michos E, Appel L, DeMarco M, Gross A, Yasar S, **Shardell M**, Semba R, Ferrucci L, Fried LP, Kalyani RR. The association of vitamin D deficiency and cardiometabolic diseases with incident frailty in older women. International Conference on Frailty & Sarcopenia Research, Philadelphia, Pennsylvania; 2016.
28. Nelson TM, Borgogna JL, Roberts D, Rath JM, Glover ED, Ravel J, **Shardell M**, Yoman CJ, Brotman RM. Cigarette smoking is associated with an altered metabolomic profile of the vaginal environment. International Society for Microbial Ecology, Montreal, Canada; 2016.
29. **Shardell M.** Leveraging seasonality of serum 25-hydroxyvitamin D to control for unmeasured confounders in vitamin D epidemiology. NIH Research Festival, Bethesda, Maryland; 2016.
30. Rathbun AM, **Shardell M**, Orwig D, Hebel JR, Hicks GE, Beck TJ, Hochberg MC, Magaziner J. Difference in the Trajectory of Change in Bone Geometry as Measured by Hip Structural Analysis in the Narrow Neck, Intertrochanteric Region, and Femoral Shaft Following Hip Fracture. Epidemiology Congress of the Americas, Miami, Florida; 2016.
31. Rathbun AM, **Shardell MD**, Yau MS, Baumgarten M, Stuart EA, Hochberg MC. Pain Severity as a Mediator of the Effect of Depressive Symptoms on Physical Performance in Knee Osteoarthritis. American College of Rheumatology Annual Meeting, Washington, DC; 2016.
32. Salimi S, **Shardell MD**, Seliger SL, Guralnik JM, Bandinelli S, Ferrucci L. Pro-inflammatory biomarkers and trajectory of renal function in older community-dwelling adults. University of Maryland Geriatrics and Gerontology Education and Research Program Graduate Research Conference, Baltimore, Maryland; 2017.
33. **Shardell M**, Kalyani R, Semba RD, Bandinelli S, Varadhan R, Ferrucci L. Plasma klotho, adiposity, and insulin resistance in older adults: findings from the InCHIANTI Study. International Association of Gerontology and Geriatrics World Congress, San Francisco, California; 2017.
34. **Shardell M**, Kalyani R, Semba RD, Bandinelli S, Varadhan R, Ferrucci L. Plasma klotho, adiposity, and insulin resistance in older adults: findings from the InCHIANTI Study. NIH Research Festival, Bethesda, MD; 2017.
35. Rathbun AM, Magaziner J, **Shardell MD**, Yerges-Armstrong LM, Orwig D, Hicks GE, Hochberg MC. Older Men Who Sustain a Hip Fracture Experience Greater Expected Declines in Bone Mineral Density at the Non-Fractured Hip. American Society for Bone and Mineral Research Annual Meeting, Denver, CO; 2017.
36. Rathbun AM, M Schuler, Stuart EA, **Shardell MD**, Yau MS, Hochberg MC. Sex Differences in Depressive Symptom Subtypes in Knee Osteoarthritis. American College of Rheumatology Annual Meeting, San Diego, California; 2017.
37. Salimi S, **Shardell M**, Miller R, Gruber-Baldini AL, Orwig D, Fedarko N, Hochberg MC, Guralnik J, Magaziner J. Soluble tumor necrosis factor alpha receptor1, bone resorption and bone mineral density in

the year following hip fractures: The Baltimore Hip Studies. Claude D. Pepper Older Americans Independence Center Annual Meeting, Arlington, Virginia; 2018. (*Best Poster Award*)

- 38. **Shardell M.** Joint mixed-effects models to address unmeasured confounding and selective attrition in vitamin D epidemiology research. NIH Research Festival, Bethesda, MD; 2018.
- 39. **Shardell M**, Gravitt PE, Burke AE, Ravel J, Brotman RM. Association of vaginal microbiota with signs and symptoms of the genitourinary syndrome of menopause across reproductive stages. Gerontological Society of America Annual Meeting; Virtual (originally scheduled for Philadelphia, PA); 2020.
- 40. **Shardell M**, Chen C, Falvey J. Longitudinal semiparametric models to overcome outcome-dependent follow-up bias of real-world data. UMB Precision Medicine for Learning Health Systems, Baltimore, MD; 2023.
- 41. **Shardell M**, Rathbun A, Gruber-Baldini AL, Guralnik J, Golden J, Kapogiannis D, Simonsick EM. Epidemiology of the inverse comorbidity of dementia and cancer: the challenge of selective survival bias. Gerontological Society of America, Tampa, Florida; 2023.