

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

Date August 7th, 2026

Contact Information

Business Address: Institute for Genome Sciences
Health Sciences Facilities III, #3111
670 W Baltimore Street
Baltimore, Maryland 21201
Telephone: 410-706-1136
Email: mshardell@som.umaryland.edu

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
2010-2014	Representative, School of Medicine Council
2011-2014	Member, Biostatistics Curriculum Committee
2012-2014	Interviewer of Prospective PhD Students, Graduate Program in Life Sciences Doctoral Program in Epidemiology and Human Genetics
2013-2014	Member, Graduate Comprehensive Exam Committee
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
2023-2026	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
2024-2025	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
2024-2025	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
2026-Present	Member, NCI-funded UMB Advancing Oncologic Research Communities in Health Equity (ARCH) K12 Program Mentoring Committee, University of Maryland, Baltimore
2026	Reviewer, NCI-funded UMB Advancing Oncologic Research Communities in Health Equity (ARCH) K12 Program Scholar Selection Committee, University of Maryland, Baltimore
2026	Reviewer, Center for Advanced Research Training & Innovation Second Look Program, University of Maryland School of Medicine
2026-Present	Chair, Epidemiology and Public Health Biostatistics Faculty Search Committee, University of Maryland School of Medicine
2026-Present	Member, Epidemiology and Public Health Data Coordinating Center Director Search Committee, University of Maryland School of Medicine

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> <i>American Journal of Epidemiology</i> <i>American Journal of Obstetrics & 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.
2017-2026	<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 Meeting
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.
2020-2025	<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 & Checklist Validator</u> , STrengthening the Organization and Reporting of Microbiome Studies (STORMS) Consortium (https://www.stormsmicrobiome.org/)
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)
2021-2026	<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 MMethods 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 Reviewer</u> , Johns Hopkins University Claude D Pepper Older Americans Independence Center Pilot/Exploratory Studies
2025	<u>External Reviewer</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
2025	<u>Moderator</u> , ASA Statistical Partnerships among Academe, Industry, and Government (SPAIG) Committee webinar “From Search to Success: Your Complete Guide to Internships”
2026	<u>Chair-Elect</u> , American Statistical Association Statistics in Epidemiology Section
2026-Present	<u>Member</u> , External Advisory Board, Johns Hopkins University Claude D Pepper Older Americans Independence Center
2026-Present	<u>Member</u> , Leadership Support Council, Representative to the Joint Statistical Meetings Program Committee, American Statistical Association
2026	<u>Deputy Chair</u> , Analytics and Statistics for Population Research Panel A (ASPA) NIH Study Section (March 2026)
2026	<u>Moderator</u> , ASA Committee of Representatives to AAAS webinar “Amplify Your Impact: ASA Members and the AAAS Annual Meeting”
2026-Present	<u>Inaugural Statistical Associate Editor</u> , JAMA Network Open
2026	<u>Organizer</u> , Invited Paper Session “Advancing Complex Longitudinal Aging Research: Competing Risks, Composite Outcomes, Measurement Error,” Joint Statistical Meetings; Boston, Massachusetts

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 World Congress
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
2026	<u>Organizer and Chair</u> , Invited Session “Advancing the Science of Cognition and Alzheimer’s Disease and Related Dementias: From Molecules and Models to Hospitals and Populations,” International Association of Gerontology and Geriatrics World Congress; Amsterdam, the Netherlands
2026	<u>Organizer and Chair</u> , Topic Contributed Session “Advancing Methods for Complex Longitudinal Data in Aging Research: Multivariate Endpoints, Measurement, and Competing Risks,” International Biometric Conference; Seoul, South Korea

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 Robert Wood Johnson Teaching Assistant 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 International Lecturer 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 Visiting Assistant Professor 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 Instructor 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 Course Director 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 Invited Lecturer 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 Course Director 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 online graduate students, 4 contact hours/week for 16 weeks/year
- 2020-Present Invited Lecturer for GPLS 716 “Genomics and Bioinformatics,” Lecture titles: “Introduction to P-values and Multiple Comparisons” and “Introduction to R, RStudio, and R Markdown,” 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 Invited Lecturer 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 Faculty Mentor 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 Invited Lecturer 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

Early-Stage Investigators

2025-Present 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 Invited Lecturer for the Nathan Schnaper Intern Program in Translational Cancer Research (NSIP), Lecture title: “Biostatistics in Biomedical Research: Introduction to P-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
- 2023-2025 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
- 2023-2025 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 *Member & Biostatistics Mentor*, Shayna Rich, M.D./Ph.D. (F31 Awardee)
- 2006-2009 *Member & Biostatistics Mentor*, Kristen Kreisel, Ph.D.
- 2007-2009 *Member & Biostatistics Mentor*, Marin Schweizer, Ph.D.
- 2007-2010 *Member & Biostatistics Mentor*, Julia Chan, Ph.D.
- 2007-2010 *Co-Chair*, Christopher D’Adamo, Ph.D.
- 2007-2013 *Member & Biostatistics Mentor*, Maya Matheny, Ph.D.
- 2010-2012 *Member & Biostatistics Mentor*, Aaron Hess, M.D./Ph.D.
- 2011-2013 *Member & Biostatistics Mentor*, Ying Tang, Ph.D.
- 2011-2014 *Member & Biostatistics Mentor*, Lisa Reider, Ph.D.
- 2019-2023 *Member & Dean’s Representative*, Christina Stennett, Ph.D. (NIH R36 Awardee)
- 2019-2022 *Member & Dean’s Representative*, DeeDee Ismail, Ph.D.
- 2020-2021 *Member & Dean’s Representative*, Rashmita Bajracharya, Ph.D.
- 2021-2024 *Member*, Bing Guo, Ph.D. (Graduate Program in Life Sciences Dissertation Awardee)

2021-2024	<i>Member & Biostatistics Mentor, Sarah Robbins, Ph.D. (NIH F31 Awardee)</i>
2021-2024	<i>Member & Dean's Representative, Jennifer Kirk, Ph.D.</i>
2022-2025	<i>Member & Reader, Bern Monari, Ph.D, Department of Microbiology and Immunology (UMB ICTR KL1 Awardee)</i>
2022-2024	<i>Member & Dean's Representative, Rhea Mehta, Ph.D.</i>
2023-Present	<i>Chair, Aman Shrestha, Ph.D. candidate (2024 GSA Travel Award; 2025 EPH Early Career Gerontology Award; 2026 UMB Provost's Global Scholar Award; 2026 EPH Langenberg Endowment in Women's Health and Epidemiology Award; 2026 ASN Kidney Stars Travel Award)</i>
2023-Present	<i>Co-Chair, Anam Ahmad, M.D./Ph.D. candidate (UMB ICTR T32 Awardee)</i>
2024-Present	<i>Member, Isaac Chaudry, M.D./Ph.D. candidate Department of Microbiology and Immunology</i>
2025-Present	<i>Member & Reader, Divya Hosengadi, Ph.D. candidate</i>
2026-Present	<i>Member, Courtney Broedlow, Ph.D. candidate, Program in Molecular Medicine</i>

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 (2026 MPower Junior Faculty Scholar)
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
2023-2025	Joanna-Lynn Borgogna, PhD, NIH K99/R00 Pathway to Independence Award Recipient (Co-Sponsor and Biostatistics Mentor), Postdoctoral Fellow, Montana State University
2023-2025	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)
2024-2026	Kayla Carter, PhD, NIH F32 Postdoctoral Award Recipient (Co-Sponsor and Biostatistics Mentor), Postdoctoral Fellow, University of Maryland, Baltimore (2026 <i>MPOWER</i> Postdoctoral Scholar)
2025-Present	Tong Wen, PhD, Postdoctoral Fellow, University of Maryland, Baltimore (GSA 2025 Travel Award; ICSA 2026 NSF Travel Award)
2025-Present	Galya Bigman, PhD, UM-OAIC Pepper Pilot Awardee
2026-Present	Tracy Hazen, PhD, IGS, Member of Faculty Mentoring Committee
2026-Present	Daniel Bergman, PhD, IGS, Member of Faculty Mentoring Committee

Grant Support

Active Grants

9/01/21-8/31/27	(Contact Principal Investigator: 20%) 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) <i>Annual Direct Costs: \$576,338</i> <i>Total Direct Costs: \$2,841,505</i>
02/01/23-11/30/28	(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) <i>Annual Direct Costs: \$481,420</i> <i>Total Direct Costs: \$2,394,242</i>

- 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
- 01/01/26-07/31/30 (Co-Investigator: 3%) PI: A. Creanga
Data Coordination and Innovation Hub
NIH/NICHHD (U24HD113136)
Annual Direct Costs: \$956,427
Total Direct Costs: \$5,673,776
- 05/07/26-05/06/17 (**Principal Investigator:** 10%) PI: M. Shardell/R. Brotman
Reproductive Aging and its Impact on Healthspan: A Geroscience Approach
UMSOM/Targeted Pivoting Programmatic Research Grant

Annual Direct Costs: \$499,923
Total Direct Costs: \$499,923

Pending Grants

- 07/01/26–6/30/31 **(Principal Investigator: 25%)**
Academic Leadership Award: Training Program in Gerontologic Biostatistics
NIH/NIA (K07)
Annual Direct Costs: \$148,559
Total Direct Costs: \$742,797
- 7/1/26-6/30/31 (Co-Director of the Biostatistics, Data Science, and Informatics Core: 9%) PI: A Ryan /L Katzel
University of Maryland Claude D Pepper Older Americans Independence Center (UM-OAIC) (P30)
NIH/National Institute on Aging (P30 AG028747)
Annual Direct Costs: \$714,534
Total Direct Costs: \$3,572,670
- 7/1/26-6/30/28 (Co-Investigator: 5%) PI: S. Chen
Novel Approaches to Remove Systematic Prediction Bias in Machine-Learning Regression for Biological Age
NIH/National Institute on Aging (R21)
Annual Direct Costs: \$137,500
Total Direct Costs: \$275,000
- 12/01/26–11/30/28 (Biostatistician/Co-Investigator: 5%) PI: S. Kwatra
Immune Heterogeneity in Chronic Pruritus of Unknown Origin
NIH/NIAMS (R21)
Annual Direct Costs: \$137,500
Total Direct Costs: \$275,000
- 12/01/26–11/30/32 (Biostatistician/Co-Investigator: 10%) PI: A. Rathbun
Medication and exercise to OpTimIze Outcomes for kNee osteoarthritis (MOTION)
NIH (R01)
Annual Direct Costs: \$1,845,516
Total Direct Costs: \$11,073,099
- 12/01/26–11/30/28 (Biostatistician/Co-Investigator: 5%) PI: A. Rathbun
Sex-specific Hlgh-dimensional proteomic signatures Following hip fracTure (SHIFT)
NIH (R21)
Annual Direct Costs: \$136,819
Total Direct Costs: \$273,637
- 05/01/27-04/30/32 (Co-Investigator: 2.5%) PI: I. Burd
Maryland BIRCWH
NIH (K12)
Annual Direct Costs: \$523,617

Total Direct Costs: \$2,618,086

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)
Annual Direct Costs: \$160,928
Total Direct Costs: \$804,640
- 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)
Annual Direct Costs: \$116,325
Total Direct Costs: \$486,793

7/26/10-7/25/12 (Co-Investigator/Biostatistician) PI: J. Furuno
 Using Nursing Home Antibigrams to Improve Antibiotic Prescribing and Delivery
 Agency for Healthcare Research & Quality (HHSA290200600020I)
Annual Direct Costs: \$221,616
Total Direct Costs: \$432,232

9/1/10-5/31/19 (Co-Investigator/Biostatistician) PI: J. Magaziner/R. Craik
 Community Ambulation Following Hip Fracture
ClinicalTrials.gov Identifier: NCT01783704
 NIH/National Institute on Aging (R01 AG035009)
Annual Direct Costs: \$2,110,410
Total Direct Costs: \$10,050,364

4/1/11-3/31/15 **(Principal Investigator)**
 Statistical Methods to Correct for Proxy Bias in Studies of Older Adults
 NIH/National Institute on Aging (K25 AG034216)
Annual Direct Costs: \$121,977
Total Direct Costs: \$371,140

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)
Annual Direct Costs: \$641,149
Total Direct Costs: \$2,992,029

8/1/12-4/30/18 **(Principal Investigator for subcontract)** 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)
Annual Direct Costs: \$304,874
Total Direct Costs: \$1,555,575

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)
Annual Direct Costs: \$321,476
Total Direct Costs: \$907,193

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)
Annual Direct Costs: \$125,000
Total Direct Costs: \$275,000

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)
Annual Direct Costs: \$363,750
Total Direct Costs: \$1,091,250

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)
Annual Direct Costs: \$15,388
Total Direct Costs: \$56,905

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)
Annual Direct Costs: \$490,450
Total Direct Costs: \$2,500,000

9/30/15-4/30/22 **(Principal Investigator)**
Statistical Methods for Vitamin D Targets for Functional Outcomes in Older Adults
(R01)
NIH/National Institute on Aging (R01 AG048069)
Annual Direct Costs: \$301,260
Total Direct Costs: \$1,217,760

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)
Annual Direct Costs: \$250,000
Total Direct Costs: \$725,000

9/30/15-6/30/18 (Biostatistician) PI: S. Bhasin/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 **(Principal Investigator)**
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) <i>Annual Direct Costs: \$50,000</i> <i>Total Direct Costs: \$250,000</i>
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) <i>Annual Direct Costs: \$569,876</i> <i>Total Direct Costs: \$569,876</i>
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 <i>Annual Direct Costs: \$3,000</i> <i>Total Direct Costs: \$3,000</i>
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) <i>Annual Direct Costs: \$249,911</i> <i>Total Direct Costs: \$249,911</i>
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) <i>Annual Direct Costs: \$23,897</i> <i>Total Direct Costs: \$47,794</i>
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) <i>Annual Direct Costs: \$210,244</i> <i>Total Direct Costs: \$420,488</i>
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) <i>Annual Direct Costs: \$100,000</i> <i>Total Direct Costs: \$200,000</i>
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

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)

Annual Direct Costs: \$714,534

Total Direct Costs: \$3,572,670

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 1101HX000107) (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
Annual Direct Costs: \$33,334
Total Direct Costs: \$33,334

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
ClinicalTrials.gov Identifier: NCT01318213
Agency for Healthcare Research & Quality (HHS A290200600015i)
Annual Direct Costs: \$486,990
Total Direct Costs: \$973,980

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
Annual Direct Costs: \$47,732
Total Direct Costs: \$47,732

09/21/20 – 9/20/21 **(Principal Investigator: 26%)**
Interagency Personnel Agreement
NIH IPA (6204557)
Annual Direct Costs: \$59,132
Total Direct Costs: \$59,132

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, Naggat 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*)

17. Schweizer ML*, Furuno JP, Harris AD, McGregor JC, Thom KA, Johnson JK, **Shardell MD**, Perencevich EN. Clinical utility of infection control documentation of prior history of Methicillin-resistant *Staphylococcus aureus* colonization or infection. *Infect Control Hosp Epidemiol*, 2008 29:972-974. PMID: 18793097 PMCID: 2853911 (*mentored the student, oversaw the data analysis*)
18. **Shardell M**, Scharfstein DO, Vlahov D, and Galai N. Inference for cumulative incidence functions with informatively coarsened discrete event-time data. *Statistics in Medicine*, 2008 27:5861-5879. PMID: 18759370 PMCID: 2796438 (*developed biostatistical methods, wrote the paper*)
19. **Shardell M**, Scharfstein DO, Vlahov D, and Galai N. Sensitivity analysis using elicited expert information for inference with coarsened data: Illustration of censored discrete event times in ALIVE. *American Journal of Epidemiology*, 2008 168:1460-1469. PMID: 18952850 PMCID: 2732953 (*developed biostatistical methods, wrote the paper*)
20. Perencevich EN, McGregor JC, **Shardell M**, Furuno JP, Harris AD, Morris JG, Fisman DN, Johnson JA. Summer peaks in gram-negative bacterial infections among hospitalized patients. *Infect Control Hosp Epidemiol*, 2008 29:1124-1131. PMID: 19031546 (*planned and performed data analysis, wrote part of the paper*)
21. Resnick B, D'Adamo C, **Shardell M**, Orwig D, Hawkes W, Hebel JR, Golden J, Magaziner J, Zimmerman S, Yu-Yahiro J. Adherence to an exercise intervention among older women post hip fracture. *J Clinical Sport Psychology* 2008 2:41-56. PMID: 20428489 PMCID: 2859720 (*interpreted the data*)
22. Thom K, **Shardell M**, Osih R, Schweizer M, Furuno J, Perencevich E, McGregor J, Harris A. Impact of controlling for severity of illness at different time points. *Infect Control Hosp Epidemiol*, 2008 29:1048-1053. PMID: 18817505 PMCID: 2716043 (*helped plan data analysis*)
23. **Shardell M**, Hicks GE, Miller RR, Kritchevsky S, Andersen D, Bandinelli S, Cherubini A, Ferrucci L. Association of low vitamin D levels with the frailty syndrome in men and women. *Journal of Gerontology A, Biological Sciences Medical Sciences*, 2009 64:69-75. PMID: 19164273 PMCID: 2691187 (*conceived the research question, planned and performed the data analysis, wrote the paper*)
24. Rich SE*, **Shardell M**, Margolis D, Baumgarten M. Pressure ulcer preventive device use among elderly patients early in the hospital stay. *Nursing Research*, 2009 58:95-104. PMID: 19289930 PMCID: 2832670 (*mentored the student, oversaw the data analysis*)
25. **Shardell MD**, El-Kamary SS. Calculating sample size for studies with expected all-or-none nonadherence and selection bias. *Biometrics*, 2009 65:635-639. PMID: 18759830 PMCID: 4319571 (*developed biostatistical methods and wrote the paper*)
26. Baumgarten M, Margolis DJ, Seleko J, Moye N, Jones PS, **Shardell M**. Validity of pressure ulcer diagnosis using digital photography. *Wound Repair and Regeneration*, 2009 17:287-290. PMID: 19320898 PMCID: 2839538 (*performed the data analysis*)
27. Baumgarten M, Margolis DJ, Orwig DL, **Shardell MD**, Hawkes WG, Langenberg P, Palmer MH, Jones PS, McArdle PF, Sterling R, Kinosian BP, Rich SE, Sowinski J, Magaziner J. Pressure ulcers in elderly hip fracture patients across the continuum of care. *Journal of the American Geriatrics Society*, 2009 57:863-870. PMID: 19484841 PMCID: 3382012 (*planned the data analysis, wrote part of the paper*)
28. Baumgarten M, **Shardell M**, Rich S. Methodologic issues in studies of the effectiveness of pressure ulcer prevention interventions. *Advances in Skin & Wound Care*, 2009 22:180-188. PMID: 19325278 PMCID: 2841287 (*wrote part of the paper*)
29. El-Kamary S, **Shardell MD**, Abdel-Hamid M, Ismail S, El-Ateek M, Metwally M, Mikhail N, Hashem M, Mousa A, Aboul-Fotouh A, El-Kassas M, Esmat G, Strickland GT. A randomized controlled clinical trial to assess the safety and efficacy of Silymarin on symptoms, signs and biomarkers of acute hepatitis. *Phytomedicine*, 2009 16:391-400. PMID: 19303273 PMCID: 2733865 (*planned and performed the data analysis, wrote part of the paper*)
30. Quinn CC, Gruber-Baldini AL, **Shardell M**, Weed K, Clough SS, Peeples M, Terrin M, Bronich-Hall L, Barr E, Lender D. Mobile diabetes intervention study: Testing a personalized treatment/behavioral

- communication intervention for blood glucose control. *Contemporary Clinical Trials*, 2009 30:334-346. PMID: 19250979 (*designed the analytical plan for the study, wrote part of the paper*)
31. Miller RR, Ballew S, **Shardell MD**, Hicks GE, Hawkes WG, Resnick B, Magaziner J. Repeat falls and the recovery of social participation in the year post hip fracture. *Age and Ageing*, 2009 38:570-575. PMID: 19586976 PMCID: 2981467 (*planned the data analysis, wrote part of the paper*)
 32. **Shardell M**, El-Kamary SS. Sensitivity analysis of informatively coarsened data using pattern mixture models. *Journal of Biopharmaceutical Statistics*, 2009 19:1018-1038. PMID: 20183462 PMCID: 3727411 (*developed biostatistical methods, wrote the SAS software code included in the appendix, wrote the paper [note: this was an invited paper]*)
 33. Royak-Schaler R, Gardner L, **Shardell M**, Zhan M, Passmore SR, Gadalla SM, Hoy MK, Tkaczuk KHR, Nesbitt K. Evidence-based care for breast-cancer survivors: Communicating the Institute of Medicine Guidelines in medical practice. *Patient Education and Counseling*, 2009 77:413-420. PMID: 19883985 (*planned and oversaw the data analysis, wrote part of the paper*)
 34. Baumgarten M, Margolis D, Orwig D, Hawkes W, Rich S, Langenberg P, **Shardell M**, Palmer MH, McArdle P, Sterling R, Jones PS, Magaziner J. Use of pressure-redistributing support surfaces among elderly hip fracture patients across the continuum care: adherence to prevention guidelines. *Gerontologist*, 2010 50:253-262. PMID: 19587108 PMCID: 2838408 (*helped plan the data analysis, wrote part of the paper*)
 35. Kreisel K*, Roghmann MC, **Shardell M**, Stine OC, Perencevich E, Lesse A, Gordin F, Climo M, Johnson JK. Assessment of the 48-hour rule for identifying community-associated methicillin-resistant *Staphylococcus aureus* infections complicated by bacteremia. *Infect Control Hosp Epidemiol*, 2010 31:657-659. PMID: 20412012 (*mentored the student, oversaw the data analysis*)
 36. **Shardell M**, Hicks GE, Miller RR, Langenberg P, Magaziner J. Pattern-mixture models for analyzing normal outcome data with proxy respondents. *Statistics in Medicine*, 2010 29:1522-1538. PMID: 20535763 PMCID: 3010385 (*developed biostatistical method, wrote the paper; note: this paper is part of the curriculum of STAT 9240 "Bayesian Inference" at the Department of Biostatistics & Epidemiology Medical College of Georgia*)
 37. Braver ER, **Shardell M**, Teoh ER. How have changes in air bag designs affected frontal crash mortality? *Annals of Epidemiology*, 2010 20:499-510. PMID: 20538193 (*planned the data analysis, wrote part of the paper*)
 38. Milaneschi Y, **Shardell M**, Corsi A, Vazzana R, Bandinelli S, Guralnik JM, Ferrucci L. Serum 25-hydroxyvitamin D and depressive symptoms in older women and men. *Journal of Clinical Endocrinology and Metabolism*, 2010 29:1522-1538. PMID: 20444911 PMCID: 2928895 (*helped plan the data analysis, wrote part of the paper*)
 39. **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. *Statistics in Medicine* 2010 29:2282-2296. PMID: 20564729 PMCID: 3731632 (*developed biostatistical method, wrote the paper*)
 40. Schweizer ML*, Furuno JP, Harris AD, Johnson JK, **Shardell MD**, McGregor JC, Thom KA, Sakoulas G, Perencevich EN. Empiric therapy for *Staphylococcus aureus* bacteremia may not reduce in-hospital mortality. *PLoS One*, 2010 5:e11432. PMID: 20625395 PMCID: 2896397 (*mentored student, oversaw the data analysis, helped revise the paper*)
 41. Kreisel KM*, Johnson JK, Stine OC, **Shardell MD**, Perencevich EN, Lesse AJ, Gordin FM, Climo MW, Roghmann MC. Illicit drug use and risk of USA300 methicillin-resistant *Staphylococcus aureus* infections complicated by bacteremia. *Emerging Infectious Diseases*, 2010 16:1419-1427. PMID: 20735927 PMCID: 3294968 (*mentored student, oversaw the data analysis*)
 42. Rich SE*, Margolis D, **Shardell M**, Hawkes WG, Miller RR, Amr S, Baumgarten M. Frequent manual repositioning and incidence of pressure ulcers among bedbound elderly hip fracture patients. *Wound*

- Repair and Regeneration* 2011 19:10-18. PMID: 21134034 PMCID: 3059225 (**mentored the student, oversaw the data analysis**)
43. Rich SE*, **Shardell M**, Hawkes WG, Margolis DJ, Amr S, Miller R, Baumgarten M. Pressure-redistributing support surface use and pressure ulcer incidence in elderly hip fracture patients. *J American Geriatrics Society* 2011 59:1052-1059. PMID: 21649630 PMCID: 3601674 (**mentored the student, oversaw the data analysis**)
 44. Schweizer ML*, Furuno JP, Sakoulas G, Johnson JK, Harris AD, **Shardell MD**, McGregor JC, Thom KA, Perencevich EN. Increased mortality with accessory gene regulator (agr)-dysfunction in *Staphylococcus aureus* among bacteremic patients. *Antimicrob Agents Chemother* 2011 55:1082-1087. PMID: 21173172 PMCID: 3067101 (**mentored the student, oversaw the data analysis**)
 45. Orwig D, Hochberg M, Yu-Yahiro J, Resnick B, Hawkes WG, **Shardell M**, Hebel JR, Colvin P, Miller RR, Golden J, Zimmerman S, Magaziner J. Delivery and outcomes of a year-long RCT evaluating a home-exercise program after hip fracture. *Archives of Internal Medicine* 2011 171:323-331. PMID: 21357809 PMCID: 3140167 (**helped plan and perform the data analysis, wrote part of the paper**)
 46. Hicks GE, **Shardell M**, Alley DE, Miller RR, Bandinelli S, Guralnik J, Lauretani F, Simonsick EM, Ferrucci L. Absolute strength and loss of strength as predictors of mobility decline in older adults: the InChianti Study. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2012 67:66-73. PMID: 21546582 PMCID: 3260485 (**planned and performed the data analysis, wrote part of the paper**)
 47. **Shardell MD**, Alley DE, Hicks GE, El-Kamary SS, Miller RR, Semba RD, Ferrucci L. Low serum carotenoid concentrations and carotenoid interactions predict mortality in US adults: The Third National Health and Nutrition Examination Survey (NHANES III). *Nutrition Research*, 2011 31:178-189. PMID: 21481711 PMCID: 3081783 (**conceived the research question, planned and performed the data analysis, wrote the paper**)
 48. D'Adamo CR*, **Shardell MD**, Hicks GE, Orwig DL, Hochberg MC, Semba RD, Yu-Yahiro JA, Ferrucci L, Magaziner JS, Miller RR. Serum vitamin E concentrations among highly functioning hip fracture patients are higher than non-fracture controls. *Nutrition Research*, 2011 31:205-214. PMID: 21481714 (**mentored the student, oversaw the data analysis, wrote part of the paper**)
 49. D'Adamo CR*, Miller RR, Hicks GE, Orwig DL, Hochberg MC, Semba RD, Yu-Yahiro JA, Ferrucci L, Magaziner J, **Shardell MD**. Serum vitamin E concentrations and recovery of physical function during the year after hip fracture. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2011 66:784-793. PMID: 21486921 PMCID: 3143347 (**mentored the student, oversaw the data analysis, wrote part of the paper**)
 50. Kreisel KM*, Stine OC, Johnson JK, Perencevich EN, **Shardell MD**, Lesse AJ, Gordin FM, Climo MW, Roghmann M. USA300 methicillin-resistant *Staphylococcus aureus* bacteremia and the risk of severe sepsis: Is USA300 MRSA associated with more severe infections? *Diagn Microbiol Infect Dis* 2011 70:285-290. PMID: 21558047 PMCID: 3118841 (**mentored the student, oversaw the data analysis**)
 51. Alley D, Lloyd J, Pagan JA, Pollack C, **Shardell M**, Cannuscio C. Mortgage delinquency, health status, and unmet need: Evidence from the Health and Retirement Study. *American Journal of Public Health* 2011 101:2293-2298. PMID: 22021301 PMCID: 3222434 (**oversaw the data analysis**)
 52. El-Kamary SS, Jhaveri R, **Shardell MD**. All-cause, liver-, and non-liver, related mortality among HCV infected individuals in the general US population. *Clinical Infectious Diseases* 2011 53:150-157. PMID: 21665867 (**planned and performed the data analysis, wrote part of the paper, note: one of only 16 papers selected by the Infectious Diseases Society of America for news release from all papers published in Clinical Infectious Diseases and Journal of Infectious Diseases from April to December 2011 [Hits on Eurekalert: 2,519]**)
 53. Alley DE, Hicks GE, **Shardell M**, Hawkes W, Miller R, Craik RL, Mangione KK, Orwig D, Hochberg M, Resnick B, Magaziner J. Meaningful improvement in gait speed in hip fracture recovery. *Journal of the American Geriatrics Society* 2011 59:1650-1657. PMID: 21883109 PMCID: 3230716 (**oversaw the data analysis, wrote part of the paper**)

54. Quinn CC, **Shardell MD**, Terrin ML, Barr EA, Ballew SH, Gruber-Baldini AL. Cluster-randomized trial of a mobile phone personalized behavioral intervention for blood glucose control. *Diabetes Care* 2011 34:1934-1942. PMID: 21788632 PMCID: 3161305 (*helped design the study , planned and oversaw data analysis, wrote part of the paper*)
55. Walter S, Atzmon G, Demerath EW, Garcia ME, Kaplan RC, Kumari M, Lunetta KL, Milaneschi Y, Tanaka T, Tranah GJ, Völker U, Yu L, Arnold A, Benjamin EJ, Biffar R, Buchman AS, Boerwinkle E, Couper D, De Jager PL, Evans DA, Harris TB, Hoffmann W, Hofman A, Karasik D, Kiel DP, Kocher T, Kuningas M, Launer LJ, Lohman KK, Lutsey PL, Mackenbach J, Marcianti K, Psaty BM, Reiman EM, Rotter JI, Seshadri S, **Shardell MD**, Smith AV, van Duijn C, Walston J, Zillikens MC, Bandinelli S, Baumeister SE, Bennett DA, Ferrucci L, Gudnason V, Kivimaki M, Liu Y, Murabito JM, Newman AB, Tiemeier H, Franceschini N. A genome-wide association study of aging. *Neurobiology of Aging* 2011 32:2109.e15-2109.e28. PMID: 21782286 PMCID: 3193030 (*helped interpret the data*)
56. Eber MR, **Shardell M**, Schweizer ML, Laxminarayan R, Perencevich EN. Seasonal and temperature-associated increases in Gram-negative bacterial bloodstream infections among hospitalized patients. *PLoS ONE* 2011 6:e25298. PMID: 21966489 PMCID: 3180381 (*planned and preformed the data analysis, wrote part of the paper*)
57. Comer A, Harris AD, **Shardell M**, Braun B, Belton BM, Wolfsthal SD, Dembry LM, Jacob JT, Price C, Sulis S, Chu ES, Xiao Y, Attaining Safety for Patients through Interdisciplinary Risk Reduction Efforts (ASPIRRE) Subgroup. Web-based training improves knowledge about central line bloodstream infections. *Infection Control and Hospital Epidemiology* 2011 32:1219-1222. PMID: 22080663 PMCID: 3331708 (*planned and preformed the data analysis, wrote part of the paper*)
58. Matheny ME*, Miller RR, **Shardell MD**, Hawkes WG, Lenze EJ, Magaziner J, Orwig DL. Inflammatory cytokine levels and depressive symptoms in older women in the year after hip fracture: findings from the Baltimore Hip Studies. *Journal of the American Geriatrics Society* 2011 59:2249-2255. PMID: 22188073 PMCID: 3245645 (*mentored the student, oversaw the data analysis*)
59. **Shardell M**, Alley DE, Miller RR, Hicks GE, Magaziner J. Comparing reports from hip-fracture patients and their proxies: implications on evaluating sex differences in disability and depressive symptoms. *Journal of Aging and Health* 2012 24:367-383. PMID: 22210805 PMCID: 3320212 (*conceived the research question, planned and performed the data analysis, wrote the paper*)
60. Resnick B, Galik E, Boltz M, Hawkes W, **Shardell M**, Orwig D, Magaziner J. Physical activity in the post-hip-fracture period. *Journal of Aging and Physical Activity* 2011 19:373-387. PMID: 21911877 PMCID: 3568514. (*oversaw the data analysis, helped interpret the results*)
61. Morgan DJ, Rogawski E, Thom KA, Johnson JK, Perencevich EN, **Shardell M**, Leekha S, Harris AD. Transfer of multidrug-resistant bacteria to healthcare workers' gloves and gowns after patient contact increases with environmental contamination. *Critical Care Medicine* 2012 40:1045-1051. PMID: 22202707 PMCID: 3534819 (*oversaw the data analysis, helped interpret the results*)
62. **Shardell M**, D'Adamo C, Alley DE, Miller RR, Hicks GE, Milaneschi Y, Semba RD, Cherubini A, Bandinelli S, Ferrucci L. Serum 25-hydroxyvitamin D, transitions between frailty states, and mortality among older adults: The Invecchiare in Chianti Study. *Journal of the American Geriatrics Society* 2012 60:256-264. PMID: 22283177 PMCID: 3288698 (*conceived the research question, planned and performed the data analysis, wrote the paper*)
63. Baumgarten M, Rich SE, **Shardell MD**, Hawkes WG, Margolis DJ, Langenberg P, Orwig DL, Palmer MH, Jones PS, Sterling R, Kinosian BP, Magaziner J. Care-related factors for hospital-acquired pressure ulcers among elderly hip fracture patients. *Journal of the American Geriatrics Society* 2012 60:277-283 PMID: 22332674 PMCID: 3532032. (*oversaw the data analysis, wrote part of the paper*)
64. Schweizer ML*, Furuno JP, Harris AD, Johnson JK, **Shardell MD**, McGregor JC, Thom KA, Cosgrove SE, Sakoulas G, Perencevich EN. Comparative effectiveness of nafcillin or cefazolin versus vancomycin in methicillin-susceptible *Staphylococcus aureus* bacteremia. *BMC Infectious Diseases* 2011 11:279. PMID: 22011388 PMCID: 3206863 (*mentored the student, oversaw the data analysis*)

65. Cannuscio CC, Alley DE, Pagan JA, Soldo B, Krasny S, **Shardell M**, Asch DA, Lipman TH. Housing strain, mortgage foreclosure, and health. *Nursing Outlook* 2012 60:134-142. PMID: 22000689 PMCID: 3816996. **(oversaw data analysis, helped interpret the results)**
66. Morgan DJ, Pineles LL, **Shardell M**, Young A, Ellingson K, Jernigan JA, Day HR, Thom KA, Harris AD, Perencevich EN. Automated hand hygiene count devices may better measure changes in hand hygiene behavior than standard human observation. *Am J Infect Control* 2012 40:955-959. PMID: 22633134 **(planned and performed the data analysis, wrote part of the paper)**
67. D'Adamo CR*, Miller RR, **Shardell MD**, Orwig DL, Hochberg MC, Ferrucci L, Semba RD, Yu-Yahiro JA, Magaziner J, Hicks GE. Higher serum concentrations of dietary antioxidants are associated with lower levels of inflammatory biomarkers during the year after hip fracture. *Clinical Nutrition* 2012 31:659-665. PMID: 22365613 PMCID: 3412071 **(mentored the student, oversaw the data analysis, helped interpret the results)**
68. Shebl FM*, El-Kamary SS, **Shardell M**, Langenberg P, Dorgham LS, Maguire JH, Magder LS. Estimating incidence rates with misclassified disease status: A likelihood-based approach with application to hepatitis C virus. *International Journal of Infectious Diseases* 2012 16:e527-e531. PMID: 22543295 **(mentored the student, helped interpret results, wrote part of the paper)**
69. Hess AS*, **Shardell M**, Johnson JK, Thom KA, Strassle P, Netzer G, Harris AD. Methods and recommendations for evaluating and reporting a new diagnostic test. *Eur J Clin Microbiol Infect Dis* 2012 31:2111-2116. PMID: 22476385 PMCID: 3661219 **(mentored the student, oversaw review of statistical methods)**
70. Morgan DJ, Meddings J, Saint S, Lautenbach E, **Shardell M**, Anderson D, Milstone AM, Drees M, Pineles L, Safdar N, Bowling J, Henderson D, Yokoe D, Harris AD, the SHEA Research Network. Does nonpayment for hospital-acquired catheter-associated urinary tract infections lead to over-testing and increased antimicrobial prescribing? *Clin Infect Dis* 2012 55:923-929. PMID: 22700826 PMCID: 3657518 **(planned and performed the data analysis, interpreted the results, wrote part of the paper)**
71. Shata MT, Deaf E, Zaki ME, Abdelwahab SF, Marzuuk NM, Sobhy M, Rafaat M, Abdelbaki L, Nafeh MA, Hashem M, El-Kamary SS, **Shardell MD**, Mikhail NN, Strickland GT, Sherman KE. Protective role of humoral immune responses during an outbreak of hepatitis E in Egypt. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 2012 106:613-618. PMID: 22938992 **(interpreted the results, wrote part of the paper)**
72. El-Kamary SS, Hashem M, Saleh D, Abdelwahab SF, Sobhy M, Shebl FM, **Shardell MD**, Strickland GT, Shata MT. HCV-specific cell-mediated immune responses in children born to mothers infected with HCV. *Journal of Pediatrics* 2013 162:148-154. PMID: 22883419 PMCID: 3526784 **(planned the data analysis, interpreted the results)**
73. **Shardell M**, Simonsick E, Hicks GE, Resnick B, Ferrucci L, Magaziner J. Sensitivity analysis for nonignorable missingness and outcome misclassification from proxy reports. *Epidemiology* 2013 24:215-223. PMID: 23348065 PMCID: 3566762 **(conceived the research question, developed the biostatistical method, performed the data analysis, wrote the open-source R software code included in the online supplement, wrote the paper)**
74. Morgan DJ, Pineles L, **Shardell M**, Graham MM, Mohammadi S, Forrest GN, Reisinger HS, Schweizer ML, Perencevich EN. The effect of contact precautions on healthcare worker activity in acute care hospitals. *Infection Control Hosp Epidemiol* 2013 34:69-73. PMID: 23221195 **(planned and performed the data analysis, interpreted the results, wrote part of the paper)**
75. El-Kamary SS, Mohamed MM, El-Raziky M, **Shardell MD**, Shaker OG, ElAkel WA, Esmat G. Liver fibrosis staging through a stepwise analysis of non-invasive markers (FibroSteps) in patients with chronic hepatitis C infection. *Liver International* 2013 33:982-990. PMID: 23509874 PMCID: 3793639 **(planned and performed the data analysis, wrote the open-source R software code included in the online supplement, wrote part of the paper, including the online supplement).**

76. Hess AS*, **Shardell M**, Johnson JK, Thom KA, Roghmann MC, Netzer G, Amr S, Morgan DJ, Harris AD. A randomized controlled trial of enhanced cleaning to reduce contamination of healthcare worker gowns and gloves with multidrug-resistant bacteria. *Infection Control Hosp Epidemiol* 2013 34:487-493. PMID: 23571365 PMCID: 3759983 (*mentored the student, oversaw the data analysis, helped interpret the results*)
77. Brotman RM, **Shardell MD**, Gajer P, Fadrosh D, Chang K, Silver M, Viscidi RP, Burke AE, Ravel J, Gravitt PE. Association between the vaginal microbiota, menopause status and signs of vulvovaginal atrophy. *Menopause* 2014 21:450-458. PMID: 24080849 PMCID: 3994184 (*Menopause editor's choice for best Journal Paper Award of all articles published in 2014. This paper received media coverage from Prevention and Medscape. Planned and performed the data analysis, wrote part of the paper.*).
78. **Shardell M**, Reich NG, Perencevich EN. Back to the future with Sir Bradford Hill: statistical analysis with hospital-acquired infections. *International Journal of Epidemiology* 2013 42:1509-1510. PMID: 24038714 PMCID: 3807616 (*performed the literature review and wrote the paper*)
79. Harris AD, Pineles L, Belton B, Johnson JK, **Shardell M**, Loeb M, Newhouse R, Dembry L, Braun B, Perencevich EN, Hall KK, Morgan DJ, and the Benefits of Universal Glove and Gown (BUGG) primary investigators. Universal glove and gown use and acquisition of antibiotic resistant bacteria in the ICU: A randomized trial. *JAMA* 2013 310:1571-1580. PMID: 24097234 PMCID: 4026208. (*planned and performed the data analysis, wrote part of the paper, note: this paper received media coverage from Time, CBS, Huffington Post, and other news outlets*).
80. Schweizer ML, Perencevich EN, Eber MR, Cai X, **Shardell MD**, Braykov N, Laxminarayan R. Optimizing antimicrobial prescribing: are clinicians following national trends in methicillin-resistant staphylococcus aureus (MRSA) infections rather than local data when treating MRSA wound infections? *Antimicrobial Resistance and Infectious Control* 2013 2:28. PMID: 24128420 PMCID: 3853220 (*oversaw the data analysis, helped interpret the results*)
81. Reisinger HS, Perencevich EN, Morgan DJ, Forrest GN, **Shardell M**, Schweizer ML, Graham MM, Franciscus CL, VanderWeg MW. Improving hand hygiene compliance with point-of-use reminder signs designed using theoretically-grounded messages. *Infection Control Hosp Epidemiol* 2014 35:593-594. PMID: 24709734 (*planned and performed the data analysis, wrote part of the paper*)
82. McLean RR, **Shardell MD**, Alley DE, Cawthon PM, Fragala MS, Harris TB, Kenny AM, Peters KW, Ferrucci L, Guralnik JM, Kritchevsky SB, Kiel DP, Vassileva MT, Xue QL, Perera S, Studenski SA, Dam TL. Criteria for clinically relevant weakness and low lean mass and their longitudinal association with incident mobility impairment and mortality: The Foundation for the National Institutes of Health (FNIH) Sarcopenia Project. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2014 69:576-583. PMID: 24737560 PMCID: 3991140 (*oversaw and performed the data analysis (served as lead statistician for the whole project), wrote part of the paper*)
83. Studenski SA, Peters KW, Alley DE, Cawthon PM, McLean R, Harris TB, Ferrucci L, Guralnik J, Fragala M, Kenny AM, Kiel DP, Kritchevsky SB, **Shardell MD**, Dam TT, Vassileva MT. The FNIH Sarcopenia Project: A Summary of Conference Recommendations, Progress and Next Steps. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2014 69:547-558. PMID: 24737557 PMCID: 3991146 (*oversaw the data analysis (served as lead statistician for the whole project), wrote part of the paper [note: 2nd most cited paper in journal history]*)
84. Dam TT, Peters KW, Fragala M, Cawthon PM, Harris TB, McLean R, **Shardell M**, Alley DE, Kenny A, Ferrucci L, Guralnik J, Kiel D, Kritchevsky S, Vassileva MT, Studenski S. An Evidence-Based Comparison of Operational Criteria for the Presence of Sarcopenia. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2014 69:584-590. PMID: 24737561 PMCID: 3991139 (*oversaw and performed the data analysis (served as lead statistician for the whole project), wrote part of the paper*)
85. Alley DE, Fragala MS, **Shardell MD**, Peters KW, McLean RR, Dam TT, Kenny AM, Castaneda-Sceppa C, Harris TB, Kiel DP, Guralnik JM, Ferrucci L, Kritchevsky SB, Studenski SA, Vassileva MT,

- 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)**
86. Cawthon PM, Peters KW, **Shardell MD**, McLean RR, Dam TT, Kenny AM, Fragala MS, Harris TB, Kiel DP, Guralnik JM, Ferrucci L, Kritchevsky SB, Vassileva MT, Studenski SA, Alley DE. Cut points for low appendicular lean mass that identify older adults with clinically significant weakness. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2014 69:576-575. PMID: 24737559 PMCID: 3991141 **(oversaw and performed the data analysis (served as lead statistician for the whole project), wrote part of the paper)**
 87. Hess AS*, Kleinberg M, Netzer G, Johnson JK, **Shardell M**, Thom KA, Harris AD, Roghmann MC. Prior colonization is associated with increased risk of antibiotic-resistant Gram-negative bacteremia in cancer patients. *Diagn Microbiol Infect Dis* 2014 79:73-76. PMID: 24582582 PMCID: 4440656 **(oversaw the design and analysis, mentored the student)**
 88. Quinn CC, Sareh PL, **Shardell MD**, Terrin ML, Barr EA, Gruber-Baldini AL. Mobile diabetes intervention for glycemic control: impact on physician prescribing. *Journal of Diabetes Science and Technology* 2014 8:362-370. PMID: 24876589 PMCID: 4455407 **(helped design the study, planned and oversaw data analysis, wrote part of the paper)**
 89. Brotman RM, **Shardell MD**, Gajer P, Tracy JK, Zenilman JM, Ravel J, Gravitt PE. Interplay between the temporal dynamics of the vaginal microbiota and human papillomavirus detection. *Journal of Infectious Diseases* 2014 210:1723-1733. PMID: 24943724 PMCID: 42296189 **(planned and performed data analysis, wrote part of the paper)**
 90. **Shardell M**, Hicks GE. Statistical analysis with missing exposure data measured by proxy respondents: a misclassification problem within a missing-data problem. *Statistics in Medicine* 2014 33:4437-4452. PMID: 24935824 PMCID: 4185010 **(conceived the research question, developed the biostatistical method, performed the data analysis, wrote the paper)**
 91. **Shardell M**, Hicks GE, Ferrucci L. Doubly robust estimation and causal inference in longitudinal studies with dropout and truncation by death. *Biostatistics* 2015 16:155-168. PMID: 24997309 PMCID: 4263224 **(conceived the research question, developed the biostatistical method, performed the data analysis, wrote the paper)**
 92. Quinn CC, **Shardell MD**, Terrin ML, Barr EA, Park D, Shaikh F, Guralnik JM, Gruber-Baldini AL. Mobile diabetes intervention for glycemic control in 45- to 64-year old persons with type 2 diabetes. *Journal of Applied Gerontology* 2016 35:227-243. PMID: 25098253 **(helped design the study, planned and oversaw the data analysis, wrote part of the paper)**.
 93. De Vita F, Lauretani F, Bauer J, Bautmans I, **Shardell M**, Cherubini A, Bondi G, Zuliani G, Bandinelli S, Peddrazzoni M, Dall'Aglia E, Ceda GP, Maggio M. Relationship between vitamin D and inflammatory markers in older individuals. *Age* 2014 36:9694. PMID: 25086618 PMCID: 4150893 **(oversaw the data analysis, edited the paper for scientific content)**
 94. Fragala MS, Dam TT, Barber V, Judge JO, Studenski SA, Cawthon PM, McLean RR, Harris TB, Ferrucci L, Guralnik JM, Kiel DP, Kritchevsky SB, **Shardell MD**, Vassileva MT, Kenny AM. Strength and function response to clinical interventions of older women categorized by weakness and low lean mass using classifications from the Foundation for the National Institute of Health Sarcopenia Project. . *Journal of Gerontology A, Biological Sciences Medical Sciences* 2015 70:202-209. PMID: 25135999 PMCID: 4311186 **(oversaw the data analysis, served as lead statistician for the whole project, edited the paper for scientific content)**
 95. Stenholm S, **Shardell M**, Guralnik J, Ferrucci L. Physiological factors contributing to mobility loss over 9 years of follow-up—results from the InCHIANTI Study. *Journal of Gerontology A, Biological Sciences Medical Sciences*, 2015 70:591-597. PMID: 25748030 PMCID: 4400399 **(planned and performed the data analysis, wrote part of the paper)**.

96. **Shardell M**, Semba RD, Kalyani RR, Hicks GE, Bandinelli S, Ferrucci L. Serum 25-hydroxyvitamin D, plasma klotho, and lower-extremity physical performance among older adults: Findings from the InCHIANTI Study. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2015 70:1156-1162. PMID: 25748032 PMCID: 4553717. **(conceived the research question, planned and performed the data analysis, wrote the paper)**
97. Morgan DJ, Pineles L, **Shardell M**, Sulis C, Kett D, Bowling J, Belton BM, Harris AD and the BUGG Study Investigators. Effect of chlorhexidine bathing and other infection control practices on the Benefits of Universal Glove and Gown (BUGG) Trial: A subgroup analysis. *Infect Control Hosp Epidemiol* 2015 36:734-737. PMID: 25707404 PMCID: 4533903. **(planned and performed the data analysis)**
98. Tian Q*, Simonsick EM, Resnick SM, **Shardell M**, Ferrucci L, Studenski S. Lap time variability and executive function in older adults: The Baltimore Longitudinal Study of Aging. *Age Ageing* 2015 44:796-800. PMID: 26082177 PMCID: 45547927. **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
99. Croft LD, Harris AD, Pineles L, Langenberg P, **Shardell M**, Fink JC, Simoni-Wastila L, Morgan DJ, Benefits of Universal Glove and Gown (BUGG) Primary Investigators. The effect of universal glove and gown use on adverse events in intensive care unit (ICU) patients. *Clinical Infectious Diseases* 2015 61:545-553. PMID: 25900169. **(planned and oversaw the data analysis)**
100. Miller RR, Eastlack M, Hicks GE, Alley DE, **Shardell MD**, Orwig DL, Goodpaster BH, Chomentowski PJ, Hawkes WG, Hochberg MC, Ferrucci L, Magaziner. Asymmetry in CT scan measures of thigh muscle 2 months after hip fracture: The Baltimore Hip Studies. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2015 70:1276-80. PMID: 25969469 PMCID: 4612358. **(oversaw the data analysis, wrote part of the paper)**
101. **Shardell M**, Semba RD, Rosano C, Kalyani RR, Bandinelli S, Chia CW, Ferrucci L. Plasma klotho and cognitive decline in older adults: Findings from the InCHIANTI Study. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2016 71:677-682. PMID: 26297657 PMCID: 5007737 **(conceived the research question, planned and performed the data analysis, wrote the paper)**
102. Tian Q*, Ferrucci L, Resnick S, Simonsick EM, **Shardell M**, Gonzalez C, Landman B, Venkatraman V, Studenski S. The effect of age and microstructural white matter integrity on lap time variation and fast-paced walking speed. *Brain Imaging and Behavior* 2016 10:697-706. PMID: 26399234 PMCID: 4805500. **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
103. Dias JP*, Melvin D, Simonsick E, Carlson O, **Shardell M**, Ferrucci L, Chia CW, Basaria S, Egan JM. Effects of aromatase inhibition versus testosterone in older men with low testosterone: a randomized-controlled trial. *Andrology* 2016 4:33-40. PMID: 26588809 PMCID: 5836312 **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
104. Rathbun AM*, **Shardell M**, Orwig D, Hebel JR, Hicks GE, Beck T, Hochberg MC, Magaziner J. Differences in the trajectory of bone mineral density change measured at the total hip and femoral neck between men and women following hip fracture. *Archives of Osteoporosis* 2016 11:9. PMID: 26847627 PMCID: 4983447. **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
105. Fragala MS, Alley DE, **Shardell MD**, Harris TB, McLean RR, Kiel DP, Cawthon PM, Dam TT, Ferrucci L, Guralnik JM, Kritchevsky SB, Vassileva MT, Gudnason V, Eriksdottir G, Koster A, Newman A, Siggeirsdottir K, Satterfield S, Studenski SA, Kenny AM. Comparison of handgrip and leg extension strength in predicting slow gait speed in older adults. *Journal of the American Geriatrics Society* 2016 64:144-150. PMID: 2678286 PMCID: 5490244 **(planned and performed the data analysis, wrote part of the paper)**
106. Tian Q*, Resnick SM, Landman BA, Venkatraman VK, Gonzalez CE, Simonsick EM, **Shardell MD**, Ferrucci L, Studenski SA. Lower gray matter integrity is associated with greater lap time variation in high-functioning older adults. *Experimental Gerontology* 2016 77:46-51. PMID: 26899565 PMCID: 4808385. **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**

107. Semba RD, **Shardell M**, Sakr Ashour FA, Moaddel R, Trehan I, Maleta KM, Ordiz I, Kraemer K, Khadeer MA, Ferrucci L, Manary MJ. Child stunting is associated with low circulating amino acids. *EBioMedicine* 2016 6:246-252. PMID: 27211567 PMCID: 4856740. **(planned and performed the data analysis, wrote part of the paper)**
108. Ferrucci L, Cooper R, **Shardell M**, Simonsick EM, Schrack JA, Kuh D. Age-related change in mobility: perspectives from life course epidemiology and geroscience. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2016 71:1184-1194. PMID: 26975983 PMCID: 4978365. **(planned and performed the data analysis, edited the paper for content)**
109. Dias JP*, Melvin D, **Shardell M**, Ferrucci L, Chia CW, Gharib M, Egan JM, Basaria S. Effects of transdermal testosterone gel or an aromatase inhibitor on prostate volume in older men. *Journal of Clinical Endocrinology & Metabolism* 2016 101:1865-1871. PMID: 26950683 PMCID: 4880169. **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
110. Choi S*, Reiter DA, **Shardell M**, Simonsick EM, Studenski S, Spencer RG, Fishbein KW, Ferrucci L. ³¹P magnetic resonance spectroscopy assessment of muscle bioenergetics as a predictor of gait speed in the Baltimore Longitudinal Study of Aging. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2016 71:1638-1645. PMID: 27075894 PMCID: 5106855 **(planned and performed the data analysis, edited the paper for content, mentored the postdoc)**
111. Dias JP*, Schrack J, **Shardell MD**, Egan JM, Studenski S. Association of abdominal fat with serum amylase in an older cohort: The Baltimore Longitudinal Study of Aging. *Diabetes Research and Clinical Practice* 2016 116:212-217. PMID: 27321338 PMCID: 5832961 **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
112. Semba RD, **Shardell M**, Trehan I, Moaddel R, Maleta KM, Ordiz I, Kraemer K, Khadeer M, Ferrucci L, Manary MJ. Metabolic alterations in children with environmental enteric dysfunction. *Scientific Reports* 2016 6:28009. PMID: 27294788 PMCID: 4904796. **(planned and performed the data analysis, wrote part of the paper)**
113. Simonsick EM, Glynn NW, Jerome GJ, **Shardell M**, Schrack JA, Ferrucci L. Fatigued, but not frail: Perceived fatigability as a marker of impending decline in mobility-intact older adults. *Journal of the American Geriatrics Society* 2016 64:1287-1292. PMID: 27253228 PMCID: 4914474. **(helped plan the data analysis)**
114. Rathbun AM*, **Shardell M**, Orwig D, Gruber-Baldini AL, Ostir G, Hicks GE, Miller RR, Hochberg MC, Magaziner J. Effects of prior depressive illness and current depressive symptoms on physical performance following hip fracture. *Journal of the American Geriatrics Society* 2016 64:e171-e176. PMID: 27673273 PMCID: 5118178. **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
115. Reider L*, Beck T, Alley D, Miller R, **Shardell M**, Schumacher J, Magaziner J, Cawthon PM, Barbour KE, Cauley JA, Harris T, Health ABC Study. Evaluating the relationship between muscle and bone modeling response in older adults. *Bone* 2016 90:152-158. PMID: 27352990 PMCID: 5494965 **(oversaw the data analysis, mentored the student, edited the paper for content)**
116. **Shardell M**, Ferrucci L. Instrumental variable analysis of multiplicative models with potentially invalid instruments. *Statistics in Medicine* 2016 35:5430-5447. PMID: 27527517 PMCID 5118169. **(conceived the research question, developed the biostatistical method, performed the data analysis, wrote the paper)**
117. Zhang P, Zhu M, Geng-Spyropoulos M, **Shardell M**, Gonzalez-Freire M, Gudnason V, Eriksdottir G, Schumacher D, Van Eyk JE, Ferrucci L, Semba RD. A novel, multiplexed targeted mass spectrometry assay for quantification of complement factor H (CFH) variants and CFH-related proteins 1-5 in human plasma. *Proteomics* 2017 17 doi: 10.1002/pmic.201600237. PMID 27647805 PMCID: 5534329. **(planned and performed the analysis, wrote some of the paper)**
118. Rathbun AM*, **Shardell M**, Orwig D, Hebel JR, Hicks GE, Beck TJ, Magaziner J, Hochberg MC. Difference in the trajectory of change in bone geometry as measured by hip structural analysis in the

- narrow neck, intertrochanteric region, and femoral shaft between men and women following hip fracture. *Bone* 2016 92:124-131. PMID 27569519 PMCID 5056832. **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
119. Buta B, Choudhury PP, Xue Q-L, Chaves P, Bandeen-Roche K, **Shardell M**, Semba RD, Walston J, Michos ED, Appel LJ, DeMarco MM, Gross A, Yasar S, Ferrucci L, Fried LP, Kalyani RR. The association of vitamin D deficiency and incident frailty in older women: the role of cardiometabolic diseases. *Journal of the American Geriatrics Society* 2017 65:619-624. PMID 28008596. PMCID 5357177. **(provided statistical advice, edited the paper for content)**
 120. Dias JP*, **Shardell M**, Carlson OD, Melvin D, Caturegli G, Ferrucci L, Chia CW, Egan JM, Basaria S. Testosterone vs aromatase inhibitor in older men with low testosterone: effects on cardiometabolic parameters. *Andrology* 2017 5:31-40. PMID 27792869 PMCID: 5794008 **(oversaw the data analysis, mentored the postdoc, edited the paper for content [One of Andrology's top 20 most downloaded papers published in 2016-2017])**
 121. Orwig D, Mangione KK, Baumgarten M, Terrin M, Fortinsky R, Kenny AM, Gruber-Baldini AL, Beamer B, Tosteson A, **Shardell M**, Magder L, Binder E, Koval K, Resnick B, Craik RL, Magaziner J. Improving community ambulation after hip fracture: protocol for a randomized controlled trial comparing two physical therapy interventions. *Journal of Physiotherapy* 2017 63:45-46. PMID: 27964962. PMCID: 5388063. **(developed the statistical analysis plan, wrote part of the paper)**
 122. Chiles Shaffer N*, Ferrucci L, **Shardell M**, Simonsick EM, Studenski S. Predictive validity using less conservative FNIH Sarcopenia Project weakness cutpoints. *Journal of the American Geriatrics Society* 2017 65:574-579. PMID: 28024092. PMCID: 5357162. **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
 123. Emmanuel B*, **Shardell MD**, Tracy L, Kottlilil S, El-Kamary SS. Racial disparity in all-cause mortality among HCV-infected individuals in a general US population, NHANES III. *Journal of Viral Hepatitis* 2017 24:380—388. PMID: 27957619. **(oversaw the data analysis, mentored the student, edited the paper for content)**
 124. Chia CW, **Shardell M**, Simonsick EM, Liu DD, Gravenstein KS, Tanaka T, Egan JM, Ferrucci L. Chronic low-calorie sweetener use and risk of abdominal obesity: a cohort study. *PLoS One* 2016 11:e0167241. PMID: 27880832. PMCID: 51200853. **(planned and performed the data analysis, wrote part of the paper) [note: in the top 1% most downloaded articles of over 22,000 articles published in PLoS One in 2016]**
 125. Rathbun AM*, Yau MS, **Shardell M**, Stuart EA, Hochberg MC. Depressive symptoms and structural disease progression in knee osteoarthritis: data from the Osteoarthritis Initiative. *Clinical Rheumatology* 2017 36:155-163. PMID: 27957619. PMCID: 5488696. **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
 126. Zane A*, Reiter A, **Shardell M**, Simonsick E, Spencer R, Fishbein K, Cameron D, Studenski S, Ferrucci L. Muscle strength mediates the relationship between mitochondrial energetics and walking performance. *Aging Cell* 2017 16:461-468. PMID: 28181338. PMCID: 5418194. **(oversaw the data analysis, mentored the postdoc)**
 127. Fabbri E*, Chiles Shaffer N*, Gonzalez-Freire M*, **Shardell M**, Zoli M, Studenski SA, Ferrucci L. Early body composition, but not body mass, is associated with future accelerated decline in muscle quality. *Journal of Cachexia, Sarcopenia and Muscle* 2017 8:490-499. PMID: 28198113. PMCID: 5476863. **(oversaw the data analysis, mentored the postdoc)**
 128. Dias JP*, Veldhuis JD, Carlson O, **Shardell M**, Chia CW, Melvin D, Egan JM, Basaria S. Effects of transdermal testosterone gel or an aromatase inhibitor on serum concentration of growth hormone in older men with age-related low testosterone. *Metabolism* 2017 69:143-147. PMID: 28285644. **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
 129. Semba RD, Trehan I, Li X, Moaddel R, Ordiz MI, Maleta KM, Kraemer K, **Shardell M**, Ferrucci L, Manary M. Environmental enteric dysfunction is associated with carnitine deficiency and altered fatty

- acid oxidation. *Ebiomedicine* 2017 17:57-66. PMID: 28122695. PMCID: 5360565. **(oversaw the data analysis, edited the paper for content)**
130. Rathbun AM*, Stuart EA, **Shardell M**, Yau MS, Baumgarten M, Hochberg MC. Dynamic effects of depressive symptoms on osteoarthritis knee pain. *Arthritis Care & Research* 2018 70:80-88. PMID: 28320048 PMCID: 5607075 **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
 131. Chiles Shaffer N*, Fabbri E*, Ferrucci L, **Shardell M**, Simonsick EM, Studenski SA. Muscle quality, strength, and lower extremity physical performance in the Baltimore Longitudinal Study of Aging. *Journal of Frailty & Aging* 2017 6:183-187. PMID: 29165533 PMCID: 6232847 **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
 132. Hashem M, Jhaveri R, Saleh DA, Sharaf SA, El-Mougy F, Abd El-Salam L, **Shardell MD**, El-Ghazaly H El-Kamary SS. Spontaneous viral load decline and subsequent clearance of chronic HCV in postpartum women correlates with favorable IL28B allele. *Clinical Infectious Diseases* 2017 65:999-1005. PMID: 28903504 **(planned and performed the data analysis, wrote some of the paper)**
 133. **Shardell M** Semba RD, Kalyani RR, Bandinelli S, Prather AA, Chia CW, Ferrucci L. Plasma klotho and frailty in older adults: Findings from the InCHIANTI Study. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2019 74:1052-1057. PMID: 29053774 PMCID: 6580690 **(conceived the research question, planned and performed the data analysis, wrote the paper [this paper was selected for a special issue in JGMS on klotho and aging].)**
 134. Rathbun AR*, Magaziner J, **Shardell MD**, Yerges-Armstrong LM, Orwig D, Hicks GE, Hochberg MC. Older men who sustain a hip fracture experience greater declines in bone mineral density at the contralateral hip than non-fractured comparators. *Osteoporosis International* 2018 29:365-373. PMID: 29063216 PMCID: 5898436 **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
 135. Nelson TM*, Borgogna JC*, Michalek RD, Roberts DW, Rath JM, Glover ED, Ravel J, **Shardell MD**, Yeoman CJ, Brotman RM. Cigarette smoking is associated with an altered vaginal tract metabolomics profile. *Scientific Reports* 2018 8:852. PMID: 29339821 PMCID: 5770521 **(oversaw the data analysis, mentored the postdoc, edited the paper for content [note 20th most accessed paper at Scientific Reports in 2018])**
 136. Quinn CC, Swasey KK, Crabbe J CF, **Shardell M**, Terrin ML, Barr EA, Gruber-Baldini AL. The impact of a mobile diabetes health intervention on diabetes distress and depression among adults: secondary analysis of a cluster randomized controlled trial. *J Med Internet Res* 2017 5:e183. PMID: 29217502 PMCID: 5740263 **(helped design the study, oversaw the data analysis, edited the paper for content)**
 137. **Shardell M**, Ferrucci L. Joint mixed-effects models for causal inference with longitudinal data. *Statistics in Medicine* 2018 37:829-846. PMID: 29205454 PMCID: 5799019 **(conceived the research question, developed the biostatistical method, performed the data analysis, wrote the paper)**
 138. Salimi S*, **Shardell MD**, Seliger SL, Bandinelli S, Guralnik JM, Ferrucci L. Inflammation and trajectory of renal function in community-dwelling older adults. *Journal of the American Geriatrics Society* 2018 66:804-811. PMID: 29360163 PMCID: 5906158 **(oversaw the data analysis, mentored the postdoc, edited the paper for content)**
 139. Quinn CC, Butler E, Swasey KK, **Shardell MD**, Terrin ML, Barr EA, Gruber-Baldini AL. Mobile diabetes intervention study of patient engagement and impact on blood glucose: mixed methods analysis. *J Med Internet Res* 2018 6:e31. PMID: 29396389 PMCID: 5816260 **(helped design the study, oversaw the data analysis, edited the paper for content)**
 140. Rathbun AM*, **Shardell MD**, Stuart EA, Gruber-Baldini AL, Orwig D, Ostir GV, Hicks GE, Hochberg MC, Magaziner J. Persistence of depressive symptoms and gait speed recovery in older adults after hip fracture. *International Journal of Geriatric Psychiatry* 2018 33:875-882. PMID: 29480573 PMCID: 5995625 **(oversaw the data analysis, mentored the junior faculty member, edited the paper for content)**

141. Orwig D, Hochberg MC, Gruber-Baldini A, Resnick B, Miller RR, Hicks G, Cappola A, **Shardell M**, Beck T, Sterling R, Hebel JR, Johnson R, Magaziner J. Examining differences in recovery outcomes between male and female hip fracture patients: design and baseline results of a prospective cohort study from the Baltimore Hip Studies. *Journal of Frailty & Aging* 2018 7:162-169. PMID: 30095146 PMCID: 6500728 (*helped design the study, edited the paper for content*)
142. Chia CW, **Shardell M**, Gravenstein KS, Carlson OD, Simonsick EM, Ferrucci L, Egan JM. Regular low-calorie sweetener consumption is associated with increased secretion of glucose-dependent insulinotropic polypeptide. *Diabetes, Obesity, and Metabolism* 2018 20:2282-2285. PMID: 29687583 PMCID: 6105420 (*planned and performed the data analysis, wrote some of the paper*)
143. 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. *J Bone Mineral Res* 2018 33:1649-1656. PMID: 29734462 PMCID: 6186957 (*oversaw the data analysis, mentored the junior faculty member, edited the paper for content*)
144. Quinn CC, Swasey KK, Torain JM, **Shardell MD**, Terrin ML, Barr EA, Gruber-Baldini AL. An mHealth Diabetes Intervention for Glucose Control: Health Care Utilization Analysis. *J Med Internet Res* 2018 6:e10776. PMID: 30322839 PMCID: 6231737 (*helped design the study, oversaw the data analysis*)
145. Moaddel R, **Shardell M**, Khadeer M, Lovett J, Kadriu B, Ravichandran S, Morris PJ, Yuan P, Thomas CJ, Gould TD, Ferrucci L, Zarate CA. Plasma metabolomic profiling of a ketamine and placebo crossover trial of major depressive disorder and healthy control subjects. *Psychopharmacology* 2018 235:3017-3030. PMID: 30116859 PMCID: 6193489. (*planned and performed the data analysis, wrote some of the paper*)
146. Rathbun AM*, **Shardell MD**, Stuart EA, Yau MS, Gallo JJ, Schuler MS, Hochberg MC. Pain severity as a mediator of the association between depressive symptoms and physical performance in knee osteoarthritis. *Osteoarthritis and Cartilage* 2018 26:1453-1460. PMID: 30092262 PMCID: 6397771 (*oversaw the data analysis, mentored the junior faculty member, edited the paper for content*)
147. Dias JP*, **Shardell M**, Golden SH, Ahima R, Crews DC. Racial/Ethnic Trends in Prevalence of Diabetic Kidney Disease in the United States. *Kidney International Reports* 2018 4:334-337. PMID: 30775630 PMCID: 6365363 (*oversaw the data analysis, mentored the junior faculty member, edited the paper for content*)
148. Hicks GE, **Shardell MD**, Miller RR, Eastlack M, Orwig DL, Goodpaster BH, Chomentowski PJ, Hochberg MC, Rathbun AM, Cauley JA, Harris T, Satterfield S, Schafer AL, Magaziner J. Trunk Muscle Composition 2 Months after Hip Fracture: Findings from the Baltimore Hip Studies. *Archives of Physical Medicine and Rehabilitation* 2019 100:1663-1671. PMID: 30578772 PMCID: 6584542 (*planned and performed the analysis, wrote part of the paper*)
149. Brotman RM, **Shardell MD**, Gajer P, Fadrosch D, Chang K, Silver M, Viscidi RP, Burke AE, Ravel J, Gravitt PE. Association between the vaginal microbiota, menopause status and signs of vulvovaginal atrophy. *Menopause* 2018 25:1321-1330. PMID: 30358729 (*planned and performed the analysis, wrote part of the paper*)
150. Semba RD, Zhang P, Adelnia F, Sun K, Gonzalez-Freire M, Salem Jr., N, Brennan N, Spencer RG, Fishbein K, Khadeer M, **Shardell M**, Moaddel R, Ferrucci L. Low plasma lysophosphatidylcholines are associated with impaired mitochondrial oxidative capacity in adults in the Baltimore Longitudinal Study of Aging. *Aging Cell* 2019 18:e12915. PMID: 30719830 PMCID: 6413748. (*oversaw analysis, edited the paper for content*)
151. Adelnia F*, **Shardell M**, Bergeron CM, Fishbein KW, Spencer RG, Ferrucci L, Reiter DA. Diffusion weighted MRI with intravoxel incoherent motion modeling for assessment of muscle perfusion in the thigh during post-exercise hyperemia in younger and older adults. *NMR in Biomedicine* 2019 32:e4072.

- PMID: 30861224 PMCID: 6530599 (*mentored the postdoc, oversaw the analysis, edited the paper for content*)
152. Semba RD, Gonzalez-Freire M, Tanaka T, Biancotto A, Zhang P, **Shardell M**, Moaddel R, the CHI Consortium, Ferrucci L. Elevated plasma growth and differentiation factor-15 is associated with slower gait speed and lower physical performance in healthy community-dwelling adults. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2020 75:175-180. PMID: 30874790 PMCID: 6909888 (*oversaw analysis, edited the paper for content*)
 153. Cawthon PM, Trivison TG, Manini TM, Patel S, Pencina KM, Fielding RA, Magaziner JM, Newman AB, Brown T, Kiel DP, Cummings SR, **Shardell M**, Guralnik J, Woodhouse LJ, Pahor M, Binder E, D'Agostino RB, Xue QL, Orwoll E, Landi F, Orwig D, Schaap L, Latham NK, Hirani V, Kwok T, Pereira S, Rooks D, Kashiwa M, Torres-Gonzalez M, Menetski JP, Correa-De-Araujo R, Bhasin S, Sarcopenia Definition and Outcomes Consortium Conference participants. Establishing the link between lean mass and grip strength cutpoints with mobility disability and other health outcomes: proceedings of the Sarcopenia Definition and Outcomes Consortium Conference. *Journal of Gerontology A, Biological Sciences Medical Sciences* 2020 75:1317-1323. PMID: 30869772 PMCID: 7447857 (*contributed to the analytic design, participated in the conference as a moderator, edited the paper for content*)
 154. Rathbun AM*, Schuler MS, Stuart EA, **Shardell MD**, Yau MS, Gallo JJ, Ryan AS, Hochberg MC. Depression subtypes in persons with or at risk for symptomatic knee osteoarthritis. *Arthritis Care & Research* 2020 72:669-678. PMID: 30951261 PMCID: 7176152 (*mentored the junior faculty member, oversaw the analysis, edited the paper for content*)
 155. Adelnia F*, Urbanek J, Osawa Y, **Shardell M**, Brennan N, Fishbein KW, Spencer RG, Simonsick EM, Schrack J, Ferrucci L. Moderate-to-vigorous physical activity is associated with decline in muscle oxidative capacity in older adults. *Journal of the American Geriatrics Society* 2019 67:1695-1699. PMID: 31116422 PMCID: 6684385 (*mentored the postdoc, oversaw the analysis, edited the paper for content*)
 156. Osawa Y*, Chiles Shaffer N, **Shardell MD**, Studenski SA, Ferrucci L. Changes in knee extension peak torque and body composition and their relationship with change in gait speed. *Journal of Cachexia, Sarcopenia and Muscle* 2019 10:1000-1008. PMID: 31273957 PMCID: 6818676 (*mentored the postdoc, oversaw the analysis, edited the paper for content*)
 157. Kapogiannis D, Mustapic M, **Shardell MD**, Berkowitz ST, Diehl TC, Spangler RD, Tran J, Lazaropoulos MP, Chawla S, Gulyani S, Eitan E, An Y, Huang CW, Oh ES, Lyketsos CG, Resnick SM, Goetzl EJ, Ferrucci L. Extracellular vesicle biomarkers predict Alzheimer's Disease in the Baltimore Longitudinal Study of Aging. *JAMA Neurology* 2019 76:1340-51. PMID: 31305918 PMCID: 6632160. (*planned and performed the analysis, wrote part of the paper*)
 158. Magaziner J, Mangione KK, Orwig D, Baumgarten M, Mager L, Terrin M, Fortinsky RH, Gruber-Baldini AL, Beamer BA, Tosteson ANA, Kenny AM, **Shardell M**, Binder EF, Koval K, Resnick B, Miller R, Forman S, McBride R, Craik RL. Effect of a multicomponent home-based physical therapy intervention on ambulation after hip fracture in older adults: The CAP Randomized Clinical Trial. *JAMA* 2019 322:946-956. PMID: 31503309 PMCID: 6737521 (*planned and performed the randomization scheme, planned the data analysis, edited the paper for content*)
 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*)
 160. Ubaida-Mohien C, Lyashkov A, Gonzalez-Freire M, Tharakan R, **Shardell M**, Moaddel R, Semba RD, Chia CW, Gorospe M, Sen R, Ferrucci L. Discovery proteomics in aging human skeletal muscle finds change in spliceosome, immunity, proteostasis and mitochondria. *eLife* 2019 8:e49874 doi: 10.7554/eLife.49874. PMID: 31642809 PMCID: 6810669. (*mentored the junior scientist, oversaw parts of the analysis, edited the paper for content*)

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)*
162. Rathbun AM*, Magaziner J, **Shardell MD**, Beck TJ, Yerges-Armstrong LM, Orwig D, Hicks GE, Ryan AS, Hochberg MC. Differences in geometric strength at the contralateral hip between men with hip fracture and non-fractured controls. *Bone* 2020 132:115187 doi: 10.1016/j.bone.2019.115187. PMID: 31812699 PMCID: 7037571 *(mentored the junior faculty, oversaw the analysis, edited the paper for content)*
163. **Shardell M**, Drew DA, Semba RD, Harris TB, Cawthon PM, Simonsick EM, Kalyani RR, Schwartz AV, Kritchevsky SB, Newman AB, for the Health ABC Study. Plasma alpha-Klotho, serum fibroblast growth factor 23, and mobility disability in community-dwelling older adults. *J Endocrine Soc*, 2020 4:bvz032 doi: 10.1210/jendso/bvz032. PMID: 32405607 PMCID: 7209777 *(conceived the research question, planned and performed the data analysis, wrote the paper.)*
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)*
165. **Shardell M**, Parimi N, Langsetmo L, Tanaka T, Jiang L, Orwoll E Shikany JM, Kado DM, Cawthon PM. Comparing analytical methods for the gut microbiome and aging: gut microbial communities and body weight in the Osteoporotic Fractures in Men (MrOS) Study. *J Gerontol Series A: Med Sci Biol Sci* 2020 75:1267-1275. PMID: 30869772 PMCID: 7447857 *(conceived the research question, planned and performed the data analysis, wrote the paper [this paper was invited for a special issue in JGBS on gut microbiome and aging].)*
166. Adelnia F,* Ubaida-Mohien C, Moaddel R, **Shardell M**, Lyashkov A, Fishbein KW, Aon MA, Spencer RG, Ferrucci L. Proteomic signatures of in vivo muscle oxidative capacity in healthy adults. *Aging Cell* 19:e13124 doi: 10.1111/accel.13124. PMID: 32196924 PMCID: 7189997 *(mentored the postdoc, oversaw the analysis, edited the paper for content)*
167. Rathbun AM,* **Shardell MD**, Ryan AS, Yau MS, Gallo JJ, Schuler MS, Stuart EA, Hochberg MC. Association between disease progression and depression onset in persons with radiographic knee osteoarthritis. *Rheumatology*, 2020 59:3390-9. PMID: 32333000 PMCID: 7590406. *(mentored the junior faculty, oversaw the analysis, edited the paper for content)*
168. Bhasin S, Travison TG, Manini TM, Patel S, Pencina KM, Fielding RA, Magaziner JM, Newman AB, Kiel DP, Cooper C, Guralnik JM, Cauley JA, Arai H, Clark BC, Landi F, Schaap LA, Pereira SL, Rooks D, Woo J, Woodhouse LJ, Binder E, Brown T, **Shardell M**, Xue Q-L, D'Agostino, Sr RB, Orwig D, Gorsicki G, Correa-De-Araujo R, Cawthon PM. Sarcopenia definition: The position statements of the Sarcopenia Definition and Outcomes Consortium. *J American Geriatrics Soc* 2020 68:1410-1418. *(contributed to the analytic design, served as statistical advisor and consultant, interpreted the data)*
169. Orwig D, Magaziner J, Fielding RA, Zhu H, Binder EF, Cawthon PM, Bhasin S, Correa-de-Araujo R, Manini T, Patel S, **Shardell M**, Travison TG. Application of SDOC cut-points for low muscle strength for recovery of walking speed after hip fracture. *J Gerontol Series A: Med Sci Biol Sci* 2020 75:1379-85. PMID: 32242218 PMCID: 7302178 *(contributed to the analytic design, served as statistical advisor and consultant, interpreted the data)*
170. Cawthon PM, Manini T, Patel SM, Newman A, Travison T, Kiel DP, Santanasto AJ, Ensrud KE, Xue, Q-L, **Shardell M**, Duchowny K, Erlandson KM Pencina KM, Fielding RA, Magaziner J, Kwok T, Karlsson M, Ohlsson C, Mellstrom D, Hirani V, Ribom E, Correa-de-Araujo R, Bhasin S. Putative cut-points in sarcopenia components and incident adverse-health outcomes: an SDOC analysis, *Journal of*

- 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*)
171. Manini TM, Patel SM, Newman AB, Trivison TG, Kiel DP, **Shardell MD**, Pencina KM, Wilson KE, Kelly TL, Massaro JM, Fielding RA, Magaziner J, Correa-de-Araujo R, Kwok TCY, Hirani V, Karlsson MK, D'Agostino RB, Mellstrom D, Ohlsson C, Ribom E, Jordan JM, Bhasin S, Cawthon PM. Identification of sarcopenia components that discriminate slow walking speed: A pooled data analysis. *Journal of the American Geriatrics Soc* 2020 68:1419-28. PMID: 32633834 PMCID: 8018524 (*contributed to the analytic design, served as statistical advisor and consultant, interpreted the data, edited the manuscript for content*)
 172. Dias JP,* Joseph JJ, Kluwe B, Zhao S, **Shardell M**, Seeman T, Needham BL, Wand GS, Kline D, Brock G, Castro-Diehl C, Golden SH. The longitudinal association of changes in diurnal cortisol features with fasting glucose: MESA. *Psychoneuroendocrinology* 2020 119:104698. PMID: 32674946 PMCID: 8046490 (*mentored the junior faculty, oversaw the analysis, edited the paper for content [note: this paper received media attention on Medscape]*)
 173. Eren E, Hunt JF, **Shardell M**, Chawla S, Tran J, Gu J, Vogt N, Johnson S, Bendlin BB, Kapogiannis D. Extracellular vesicle biomarkers of Alzheimer's associated with sub-clinical cognitive decline in late middle age. *Alzheimer's & Dementia* 2020 16:1293-304. PMID: 32588967 PMCID: 7984100 (*planned and performed the analysis, wrote part of the paper*)
 174. Rathbun AM,* England B, Mikuls T, Ryan AS, Barton JS, **Shardell MD**, Hochberg MC. Relationship between depression and disease activity in American veterans with early rheumatoid arthritis receiving methotrexate. *J Rheumatology* 2021 48:813-20. PMID: 33191277 PMCID: 8121898 (*mentored the junior faculty, oversaw the analysis, edited the paper for content [note: this paper received media attention in US Medicine]*)
 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*)
 177. **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. *J Gerontol Series A: Med Sci Biol Sci* 2021 76:1542-50. PMID: 33903897 PMCID: 8361365 (*conceived the research question, planned and performed the data analysis, wrote the paper [this paper was invited for a special issue in JGBS on the intersection of reproductive and aging biology].*)
 178. Roghmann MC, Lydecker AD, **Shardell M**, DeBoy RT, Johnson K, Zhao L, Hittle LL, Mongodin EF. Effect of mupirocin for *Staphylococcus aureus* decolonization on the microbiome of the nose and throat in community and nursing home dwelling adults. *PLoS ONE* 2021 16:e0252004. PMID: 341737 PMCID: 8186807 (*analyzed the data, wrote some of the paper, edited the paper for content*)
 179. Brown SE, Robinson CK, **Shardell MD**, Holm JB, Ravel J, Ghanem KG, Brotman RM. Assessing the concordance between urogenital and vaginal microbiota: Can urine specimens be used as a proxy for vaginal samples? *Frontiers in Cellular and Infection Microbiology*, 2021 11:671413. PMID: 34268137 PMCID: 8276069 (*mentored the student, oversaw aspects of the analysis, edited the paper for content [note: the paper is accepted for a special issue entitled "The Female Reproductive Tract Microbiome - Gatekeeper for Sexual and Reproductive Health"]*)

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, Trivison 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*)
182. Orwig DL, Abraham DS, Hochberg MC, Gruber-Baldini A, Guralnik JM, Cappola AR, Golden J, Hicks GE, Miller RR, Resnick B, **Shardell M**, Sterling RS, Bajracharya R, Magaziner J. Sex differences in recovery across multiple domains among older adults with hip fracture. *J Gerontol Series A: Med Sci Biol Sci* 2022 77:1463-71. PMID: 34555162 PMCID: 9255694(*contributed to the study design, developed the analytic design, interpreted the data, edited the manuscript for content*)
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*)
187. Dias JP*, Carlson O, Schweitzer M, **Shardell M**, Clark JM, Brown TT, Egan JM, Lee CJ. GDF15 and Cortisol response to meal tolerance test in post-sleeve gastrectomy patients with weight regain. *Obesity Surgery* 2022 32:2641-8. PMID: 35672598 PMCID: 9972254 (*mentored the junior faculty, edited the paper for content*)
188. Kuo P-L*, Schrack JA, Levine ME, **Shardell MD**, Simonsick EM, Chia CW, Moore AZ, Tanaka T, An Y, Karikkineth A, AlGhatrif, Elango E, Zuckley LM, Egan JM, de Cabo R, Resnick SM, Ferrucci L. Longitudinal Phenotypic Aging Metrics in the Baltimore Longitudinal Study of Aging. *Nature Aging* 2022 2:635-43. PMID: 36910594 PMCID: 9997119 (*mentored the postdoc, oversaw the analysis, edited the paper for content*)
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*)
191. Estaki M, Langsetmo L, **Shardell M**, Mischel AK, Jiang L, Zhong Y, Kaufmann CN, Knight R, Stone K, Kado DM. Association of subjective and objective measures of sleep with gut microbiota composition and diversity in older men: The Osteoporotic Fractures in Men (MrOS) study. *J Gerontol Series A: Med Sci Biol Sci* 2023 78:1925-32. PMID: 36655399 PMCID: 10562887 (*oversaw the analysis, edited the paper for content [this paper was invited for a special issue in JGMS on Sleep, Circadian Rhythms, and Aging: Advancing Knowledge to Promote Older Adults' Health]*)
 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* 2023 78:2356-62. PMID: 37402643 PMCID: 10692421 (*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* 2024 53:dyad152. PMID: 37934603 PMCID: 11491649 (*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* 2023 11:259. PMID: 38031142 PMCID: 10688475 (*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* 2024 43:1003-18. PMID: 38149345 PMCID: 10922471 (*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* 2023 6:100426. PMID: 38130375 PMCID: 10733673 (*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* 2024 76:673-81. PMID: 38200641 PMCID: 11039384 (*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* 2024 31:537-45. PMID: 38787353 PMCID: 11886898 (*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 184:834-5. PMID: 38709499 PMCID: 11887500 (*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* 2024 72:3109-18. PMID: 39032025 PMCID: 11461115 (*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* 2024 80:ujae090. PMID: 39248121 PMCID: 11381951 (*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* 2024 35:1943-50 PMID: 39093438 PMCID: 11886897. (*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* 2024 20:7902-12. PMID: 39324538 PMCID: 11567823. (*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, Trivison TG, Griswold M, **Shardell M**. Gerontologic Biostatistics and Data Science: Aging research in the era of big data. *J Gerontol Series A Med Sci* 2025 80:glae269. PMID: 39500720 PMCID: 11683485. (*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* 2024 2:imag-2-00394. PMID: 40800426 PMCID: 12315726 (*edited the paper for content*)
 209. Mehta R*, Falvey JR, Chen C, Dong Y, **Shardell MD**, Yamashita T, Orwig DL. Association between prehip fracture antidepressant use and post-hip fracture length of hospital stay in Medicare beneficiaries and assessing sex differences. *American J Geriatric Psychiatry* 2025 33:654-63. PMID: 39609242 PMCID: 12005975 (*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* 2025 104:1001-5. PMID: 40026006 (*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* 2025 52:505-11. PMID: 39955095 PMCID: 12045742 (*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* 2025 36:855-63. PMID: 40111479 PMCID: 12089210 (*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 Y, Trivison T, **Shardell M**, McCoy RG, Saegusa T, Falvey J, Chen C. 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*)
215. Shrestha A*, Chen C, Seliger SL, Ginsberg C, Miller LM, Tian Q, Simonsick EM, Cawthon PM, **Shardell M**. Biomarkers of kidney health and dual trajectories of cognitive and physical function in older adults: Health ABC findings. *Kidney360*, in press. (*mentored the student, conceived the research question, oversaw the analysis, edited the paper for content*)
216. Rathbun AM, **Shardell MD**, Ryan AS, Stains JP, Orwig DL, Magaziner JS, Slobogean GP, Hochberg MC. Sex-specific biomarkers predict bone mineral density loss at the contralateral hip after hip fracture. *Bone*, in press. (*oversaw the analysis, edited the paper for content*)
217. Wen T*, Hu J, **Shardell M**, McCoy R, Chen S, Ryan K, Falvey J, Chen C. Particulate air pollution and post-discharge recovery among older adults hospitalized for heart failure in the United States. *J Gerontol Ser A Med Sci Bio Sci*, in press. (*mentored the postdoc, contributed to the analysis, edited the paper for content*)
218. Nowak RG, Gough E, Holm JH, Hu F, Akinyombo K, Okudo C, Ozumba PJ, Jonathan EC, Tiamiyu AB, Kokogho A, Adebajo SB, Shoyemi E, Baral SD, Lombardi K, Peel S, Lim JN, Gaydos CA, Manabe YC, Sears CL, **Shardell M**, Ravel J, Crowell TA, Tuddenham S. Metagenomic analysis reveals rectal microbiota features associated with HIV and behavioral factors in Nigerian men who have sex with men. *Sci Rep*, in press. (*established the analysis plan, oversaw the analysis, edited the paper for content*)
219. Rathbun AM*, Chen C, Tian Q, Tanaka T, Ferrucci L, **Shardell MD**. Characterization of the plasma proteomic profile of dual trajectories in cognitive status and physical performance. *GeroScience*, in press. (*mentored the junior faculty, conceived the research question, oversaw the analysis, edited the paper for content*)
220. Ahmad A*, **Shardell M**, Kalyani RR, Semba RD, Mitchell BD, Tanaka T, Taylor S, Shrestha A, Ferrucci L. Alpha-klotho, insulin resistance, and adiposity among older adults. *J Endocrin Soc*, in press. (*mentored the student, oversaw the analysis, edited the paper for content*)
221. Dias JP*, Fitzgerald KC, Wolinsky S, Lake J, Koletar SL, **Shardell MD**, Basaria S, Brown TT. Free Testosterone, sex hormone binding globulin and incident frailty in men with HIV. *J Clin Endocrin Metab*, in press. (*mentored the junior faculty, oversaw the analysis, edited the paper for content*)
222. Wen T*, Zhao R, Chen C, Falvey J, Albrecht J, Goodman KE, Speiser JL, Gruber-Baldini A, **Shardell M**. Predicting days at home after hip fracture among older adults: Strategies to mitigate age-related biases and promote algorithmic fairness. *PLoS Aging & Health*, in press. (*mentored the postdoc, conceived the research question, oversaw the analysis, wrote some of the paper, 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/2023/12/01/2023spaig/>
 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/>
 13. Wang Z, Li L, Yu X, Zhang P, Kwasny MJ, Speiser JL, Lee S, Li H, Capuano A, Sopko CC, Gregorio C, Koçak M, Hall C, **Shardell M**. Celebrating Two Years of SDSA: Building Community and Advancing Aging Research. *Amstat News* 2026 June 588:12-13. <https://magazine.amstat.org/blog/2026/06/01/sdsa/>

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)*
2. Gruber-Baldini AL, **Shardell M**, Lloyd KD, Magaziner J. Use of proxies and informants. In Newman AB, Cauley JA (Eds). *Epidemiology of Aging* (pp. 81-90). New York: Springer, 2012. *(performed the literature review, wrote part of the chapter)*

Published Abstracts (*denotes statistical mentor for student, fellow, trainee, or junior researcher)

1. Farjo R., Yoshida S., Sheth S., **Shardell M.**, Swaroop A. Retina and retinal pigment epithelium (RPE) expressed sequence tags(ESTs) and genes for cDNA microarrays. *Investigative Ophthalmology & Visual Science* 2000 41:S871-S871.
2. Simpson S, **Shardell M**, Boyd C, Fried L. The relationship between restrictive lung disease and disability in older women. *Journal of the American Geriatrics Society* 2004 52:S29.

3. Baumgarten M, Hawkes W, Langenberg P, Magaziner J, Margolis D, Orwig D, Palmer M, **Shardell M**, Sterling R. Pressure ulcers in elderly hip fracture patients across the continuum of care: preliminary results. *Gerontologist* 2006 46:545S.
4. Magaziner J, Orwig D, Resnick B, Yu-Yahiro J, Hebel R, Hawkes W, **Shardell M**, Golden J, Werner M, Hochberg M, Zimmerman S. Home-exercise following hip fracture: Results from an RCT-intervention development study in the Baltimore Hip Studies (BHS). *Gerontologist* 2006 46:162S.
5. Miller R, Cappola A, **Shardell M**, Hicks G, Hawkes W, Hebel R, Yu-Yahiro J, Magaziner J. Inflammation and muscle strength in the year following hip fracture-the Baltimore Hip Studies. *Gerontologist* 2006 46:542S
6. Ye J*, Baumgarten M, Gruber-Baldini A, Silva A, Shulman L, **Shardell M**, Magaziner J. Access to care among people with Parkinson's disease. *Gerontologist* 2006 46:285S.
7. El-Kamary S, **Shardell M**, Metwally M, Esmat G, Mikhail N, Hashem M, Abdelhamid M, Strickland GT. Safety and efficacy of silymarin on patients with acute hepatitis: A randomized controlled trial. *American Journal of Tropical Medicine and Hygiene* 2007 77(suppl):210.
8. Kamal SM, Nasser I, El-Kamary S, **Shardell M**, Hashem M, Ibrahim A, Moustafa A, Fathy I, Sobhi M, Baky AA, Mansour H. Long-term morbidity and mortality of hepatitis C infection: A 25-year follow-up. *Hepatology* 2007 46:833A.
9. Kamal SM, El-Kamary S, **Shardell M**, Hashem M, Fathy I, Galel G, Sobhi M, Ibrahim A, Ismail A, Hassam A, Baky AA, Mansour H. Intrafamilial transmission of hepatitis C virus in children: Correlation with virological and immunological parameters. *Hepatology* 2007 46:722A.
10. Shulman L, Baumgarten M, Gruber-Baldini AL, Anderson KE, **Shardell M**, Fishman PS, Reich SG, Weiner W. Racial and socioeconomic disparities in elderly patients with Parkinsonism. *Movement Disorders* 2006 21:1549-1550.
11. Shulman LM, Baumgarten M, Gruber-Baldini AL, Anderson KE, **Shardell M**, Fishman PS, Reich SG, Weiner WJ. Racial and socioeconomic disparities in patients with Parkinsonism. *Neurology* 2007 68:A104.
12. Ballew S*, Miller R, **Shardell M**, Hicks G, Hawkes W, Magaziner J. Repeated falls and recovery of social participation in the year post hip fracture. *Gerontologist* 2007 47:566S.
13. Miller R, Hicks G, **Shardell M**, Orwig D, Hawkes W, Yu-Yahiro J, Magaziner J. Effect of home-based exercise on markers of inflammation in the year post hip fracture. *Gerontologist* 2007 47:566S.
14. Baumgarten M, Hawkes W, Langenberg P, Magaziner J, Margolis D, Orwig D, Palmer M, **Shardell M**, Sterling R. Pressure ulcers in elderly hip fracture patients across the continuum of care: final results. *Gerontologist* 2007 47:566S-567S.
15. **Shardell M**, Miller R. Missing data from death and nonresponse in longitudinal studies of older adults: case study of IL-6 and hip fracture recovery. *Gerontologist* 2007 47:639S.
16. Hicks G, **Shardell M**, Miller R, Newman A, Spencer S, Satterfield S, Nevitt M, Simonsick E. Are there racial differences in musculoskeletal pain in older adults? Findings from the Health, Aging, and Body Composition study. *Gerontologist* 2007 47:729S.
17. Hicks G, **Shardell M**, Miller R, Bandinelli S, Gurlanik J, Cherubini A, Lauretani F, Ferrucci L. Low 25(OH)D concentrations are associated with significant pain in older women, but not men: Findings from the InChianti study. *Journal of the American Geriatrics Society* 2007 55:S81.
18. Miller RR, **Shardell MD**, Hicks GE, Wawkes WG, Yu-Yahiro JA, Magaziner J. Vitamin D and lower extremity function after hip fracture. *Journal of the American Geriatrics Society* 2007 55:S178.
19. Rich SE*, **Shardell M**, Margolis D, Baumgarten M. Use of pressure ulcer prevention measures among elderly hospital patients early in the hospital stay. *Journal of the American Geriatrics Society* 2007 55:S195.
20. Resnick B, Orwig D, **Shardell M**, Magaziner J, Hawkes W. The Baltimore Hip Studies: From missing data to outcomes. *Annals of Behavioral Medicine* 2007 33:S109.
21. Orwig D, Yahiro JY, Hawkes W, Hebel R, **Shardell M**, Magaziner J. BHS 4: Testing the impact of the

- exercise plus program on recovery following hip fracture. *Annals of Behavioral Medicine* 2007 33:S109.
22. **Shardell M.** Managing missing data in behavior change research. *Annals of Behavioral Medicine* 2007 33:S109.
 23. Kreisel K*, Johnson K, **Shardell M**, Perencevich E, Stine O, Roghmann M. Illicit drug use and community-associated MRSA bacteremia. *American Journal of Epidemiology* 2008 167:S74.
 24. Schweizer M*, Harris A, Furuno J, Moore A, McGregor J, Thom K, **Shardell M**, Perencevich E. Methicillin-resistant *Staphylococcus aureus* (MRSA) colonization is associated with worse outcomes. *American Journal of Epidemiology* 2008 167:S75.
 25. Miller RR, Hicks GE, **Shardell MD**, Hawkes WG, Orwig D, Yu-Yahiro JA, Magaziner J. Effect of home-based exercise on inflammation and six-minute walking distance in the year post hip fracture. *Journal of the American Geriatrics Society* 2008 56:S174-S175.
 26. **Shardell M**, Miller RR, Hicks GE, Hochberg M, Langenberg P, Magaziner J. Proxy bias in studies of older adults: Impact on evaluating disparities in recovery from hip fracture. *Journal of Women's Health* 2008 17:1249-1250.
 27. Chan JA*, Miller RR, Yu-Yahiro JA, Hawkes WG, Hebel JR, **Shardell MD**, Hicks GE, Hochberg MC, Streeten EA, Magaziner J, Orwig D. Relationship between serum levels of inflammatory cytokines and bone turnover markers in the year following hip fracture. *Journal of Bone and Mineral Research* 2008 23:S260.
 28. **Shardell M**, Hicks G, Miller R, Kritchevsky S, Andersen D, Bandinelli S, Cherubini A, Ferrucci L. Association of low vitamin D levels with the frailty syndrome in men and women. *Gerontologist* 2008 48:143S.
 29. Hicks G, **Shardell M**, D'Adamo C, Magaziner J, Orwig D, Miller R. Association of serum carotenoid levels with recovery of physical function after hip fracture: The Baltimore Hip Studies. *Gerontologist* 2008 48:470S.
 30. Andersen D*, Miller R, **Shardell M**, Hicks G, Magaziner J, Orwig D. Association of pre-fracture frailty with inflammatory response following hip fracture. *Gerontologist* 2008 48:633S.
 31. D'Adamo C*, **Shardell M**, Miller R, Orwig D, Magaziner J, Hicks G. Associations between serum antioxidants and inflammatory markers in older adults after hip fracture. *Gerontologist* 2008 48:634S.
 32. Matheny M*, **Shardell M**, Hicks G, Miller R, Magaziner J, Orwig D. Association between inflammatory markers and depressive symptoms in older adults after hip fracture. *Gerontologist* 2008 48:634S.
 33. Chan J*, Miller R, **Shardell M**, Hicks G, Magaziner J, Orwig D. The effect of inflammatory markers on bone mineral density following hip fracture. *Gerontologist* 2008 48:634S.
 34. Baumgarten M, Margolis D, Orwig D, **Shardell M**, Hawkes W, Langenberg P, Palmer M, Sterling R, Kinoshian B, Rich S, Magaziner J. Use of pressure ulcer prevention devices in elderly hip fracture patients across the continuum of care. *Gerontologist* 2008 48:358S.
 35. 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. *Journal of the American Geriatrics Society* 2009 57:S96.
 36. Quinn CC, Gruber-Baldini A, Peeples M, Clough SS, **Shardell M**. Mobile diabetes RCT: Testing personalized patient communication and provider recommendations for blood glucose control. *Diabetes* 2009 58:A567-A568.
 37. D'Adamo C*, **Shardell M**, Miller RR, Hicks G, Orwig D, Hochberg M, Ferrucci L, Magaziner J. The associations between baseline serum vitamin E concentrations and recovery of physical function during the year after hip fracture. *Gerontologist* 2009 49:211.
 38. Hicks G, **Shardell M**, Miller RR, Alley D, Cherubini A, Bandinelli S, Ferrucci L. Longitudinal associations of vitamin D with muscle composition and strength: The InChianti Study. *Gerontologist* 2009 49:215.

39. **Shardell M**, Hicks G, Miller RR, Alley D, Cherubini A, Bandinelli S, Ferrucci L. Associations of 25(OH)D levels with decline and recovery from the prefrail state: The InChianti Study. *Gerontologist* 2009 49:215.
40. Miller RR, Hicks G, **Shardell M**, Orwig D, Yu-Yahiro J, Hochberg M, Streeten EA, Magaziner J. Longitudinal associations of serum vitamin D levels with recovery of walking ability following hip fracture: The Baltimore Hip Studies. *Gerontologist* 2009 49:215.
41. Baumgarten M, Margolis D, Hawkes W, **Shardell M**, Langenberg P, Rich SE, Orwig D, Kinoshian B. Predictive modeling of pressure ulcer development in elderly hip fracture patients. *Gerontologist* 2009 49:290.
42. Chan J*, Hochberg M, Miller RR, **Shardell M**, Hawkes W, Magaziner J, Orwig D. Sex differences in bone mineral density in a hip fracture population. *Gerontologist* 2009 49:374.
43. Rich SE*, **Shardell M**, Hawkes W, Margolis D, Amr S, Miller RR, Baumgarten M. Association between support surface use & pressure ulcer incidence in elderly hip fracture patients. *Gerontologist*, 2009 49:416.
44. Semba R, Houston DK, Sun K, **Shardell M**, Bandinelli S, Cherubini A, Guralnik J, Ferrucci L. Serum 25-hydroxyvitamin D levels predict walking speed in older community-dwelling adults. *Gerontologist* 2009 49:419.
45. **Shardell MD**, Alley DE, El-Kamary SS, Hicks GE, Miller RR, Magaziner J, Langenberg P, Hochberg MC, Ferrucci L. Sex differences in the relationship of serum carotenoid levels with mortality risk among older US adults: The Third National Health and Nutrition Examination Survey (NHANES III). *Journal of Women's Health* 2009 18:1492.
46. Chan J*, Orwig D, Miller RR, **Shardell M**, Streeten E, Hochberg M, Magaziner J. The effect of inflammation on bone turnover markers and bone mineral density in men and women following hip fracture. *Gerontologist* 2010 50:180.
47. Milaneschi Y*, **Shardell M**, Corsi A, Vazzana R, Bandinelli S, Guralnik J, Ferrucci L. Vitamin D and risk of elevated depressive symptoms in older persons: the INCHIANTI Study. *Gerontologist* 2010 50:339.
48. **Shardell M**, Alley D, Miller RR, Hicks G. Joint effects of physical activity and vitamin D on longevity: NHANES III. *Gerontologist* 2010 50:439.
49. Miller RR, **Shardell M**, Alley D, Hicks G, Andersen D, Orwig D, Yu-Yahiro J, Magaziner J. Pre-fracture physical activity and post-fracture inflammation: The Baltimore Hip Studies. *Gerontologist* 2010 50:439.
50. Alley D, Hsu F, Walkup MP, **Shardell M**, Pahor M, Studenski S, Guralnik J, Harris T. Effect of physical activity on hospital-associated functional decline: The LIFE Pilot Study. *Gerontologist* 2010 50:439.
51. Hicks G, **Shardell M**, Alley D, Miller RR, D'Adamo C, Magaziner J. Association of serum carotenoid levels with recovery of physical activity after hip fracture: The Baltimore Hip Studies. *Gerontologist* 2010 50:439.
52. Milaneschi Y*, **Shardell M**, Corsi AM, Vazzana R, Bandinelli S, Guralnik JM, Ferrucci L. Serum 25-hydroxyvitamin D and depressive symptoms in older women and men. *Obstetrical & Gynecological Survey* 2010 65:706-708.
53. Miller RR, Alley D, Hawkes W, **Shardell M**, Hicks G, Orwig D, Resnick B, Yu-Yahiro J, Hochberg M, Magaziner J. Predictors of physical resilience in older adults-the Baltimore Hip Studies. *Journal of the American Geriatrics Society* 2011 59:S13-S14.
54. El-Kamary SS, Jhaveri R, **Shardell MD**. All-cause, liver-, and non-liver related mortality among hepatitis C infected individuals in the general US population. *American Journal of Epidemiology* 2011 173:S234.
55. Alley D, Yerges L, **Shardell M**, Metter EJ, Simonsick E, Snitker S, Mitchell B, Ferrucci L. Cohort differences in body composition among women: a comparison of the Baltimore Longitudinal Study of Aging and Old Order Amish. *Journal of Women's Health* 2011 10:1387.

56. Alley D, Yerges-Armstrong L, **Shardell M**, Metter EJ, Simonsick E, Snitker S, Mitchell B, Ferrucci L. Age-related changes in body composition: comparing Amish and non-Amish populations. *Gerontologist* 2011 51:202.
57. **Shardell M**, Miller R, Hicks G, Alley D, Magaziner J. Bias from proxy respondents in aging research: epidemiological and analytical solutions. *Gerontologist* 2011 51:556.
58. **Shardell M**, Simonsick EM, Hicks G, Resnick B, Ferrucci L, Magaziner J. Addressing missing data using proxy reports subject to misclassification. *Gerontologist* 2012 52:253.
59. Kahn JR, Kling J, Szanton SL, **Shardell M**, Alley D. Financial strain and health in older couples: a fixed effects model. *Gerontologist* 2012 52:503.
60. **Shardell M**, Jones A. Proxy respondents to evaluate health status in patients with hip fracture: challenges, opportunities, and lessons. *Gerontologist* 2012 52:682.
61. Quinn CC, Gruber-Baldini AL, **Shardell M**, Terrin M, Barr E, Park D, Shaikh F, Brazda M. Mobile diabetes intervention for blood glucose control: challenging age misconceptions. *Gerontologist* 2012 52:706.
62. **Shardell M**, Hicks G, Ferrucci L. Causal inference in studies of older adults with dropout and death: Vitamin D and gait speed in InCHIANTI. *Gerontologist* 2013 53:30.
63. Hicks G, Manal TJ, Sions J, Velasco T, **Shardell M**, Snyder-Mackler L. A trunk muscle training program augmented with neuromuscular electrical stimulation appears to improve function in older adults with chronic low back pain: a randomized pilot trial. *Gerontologist* 2013 53:390.
64. Matheny M*, Lenze EJ, **Shardell M**, Miller R, Amr S, Magaziner J, Orwig D. Prevalence and persistence of depressive symptoms and inflammatory cytokines in older women in the year after hip fracture: findings from the Baltimore Hip Studies. *Gerontologist* 2013 53:486-487.
65. Cawthon PM, **Shardell M**, McLean RR, Kenny A, Peters KW, Dam TL, Castaneda-Sceppa C, Studenski S. Cut-points for low appendicular lean mass that identify older adults with clinically significant weakness. *Gerontologist* 2013 53:594-594.
66. Alley D, **Shardell M**, Cawthon PM, Dam TL, Fragala M, Kenny A, McLean RR, Studenski S. Cut-points in grip strength for the clinical definition of slowness with weakness. *Gerontologist* 2013 53:595-595.
67. Brotman RM, **Shardell M**, Pawel G, Fadrosch D, Chang K, Silver M, Viscidi RP, Burke AE, Ravel J, Gravitt PE. Association between the vaginal microbiota, menopause status and signs of vulvovaginal atrophy. *Menopause* 2013 20:1318-1318.
68. **Shardell M**. Addressing and leveraging seasonality of serum 25-hydroxyvitamin D concentrations in observational aging research. *Gerontologist* 2014 54:380-380.
69. **Shardell M**, Semba R, Kalyani R, Bandinelli S, Chia CW, Ferrucci L. Prospective association of plasma klotho with bone health: Findings from the InCHIANTI Study. *Gerontologist* 2015 55 (Suppl 2): NP.
70. **Shardell M**, Semba R, Kalyani R, Bandinelli S, Chia CW, Ferrucci L. Prospective association of plasma klotho with the frailty syndrome: Findings from the InCHIANTI Study. *Gerontologist* 2015 55 (Suppl 2): NP.
71. Fabbri E*, Chiles-Shaffer N*, Gonzalez-Freire M*, **Shardell M**, Zoli M, Studenski S, Ferrucci L. Body composition, but not BMI, predicts longitudinal decline in muscle quality in older men and women from the Baltimore Longitudinal Study of Aging. *Gerontologist* 2015 55 (Suppl 2): 319-320.
72. Chiles-Shaffer N*, Fabbri E*, Ferrucci L, **Shardell M**, Studenski S. Discriminant validity of muscle quality indicators in the Baltimore Longitudinal Study of Aging. *Gerontologist* 2015 55 (Suppl 2): 283.
73. Salimi S*, **Shardell M**, Miller R, Gruber-Baldini AL, Orwig D, Rathbun AM, Yerges-Armstrong L, Hochberg MC. Association of tumor necrosis factor alpha receptor with trajectories of bone turnover markers in older adults with hip fracture. *Gerontologist* 2015 55 (Suppl 2): NP.
74. Rathbun AM*, **Shardell M**, Orwig D, Gruber-Baldini AL, Johnson R, Hochberg MC, Magaziner J. The impact of depression on physical performance following hip fracture. *Gerontologist* 2015 55 (Suppl 2): 88.

75. Rathbun AM*, Stuart E, **Shardell M**, Yau M, Hochberg M. Estimating the impact of depressive symptoms on osteoarthritis pain using marginal structural models: data from the Osteoarthritis Initiative. *Osteoarthritis and Cartilage* 2016 24:S199-S199.
76. Rathbun AM*, Yau M, **Shardell M**, Stuart E, Hochberg M. Depressive symptoms and structural disease progression in knee osteoarthritis: data from the Osteoarthritis Initiative. *Osteoarthritis and Cartilage* 2016 24:S214-S215.
77. Semba RD, Zhang P, Zhu M, Geng-Spyropoulos M, **Shardell M**, Gonzalez-Freire M, Eriksdottir G, Gudnason V, Van Eyk JE, Ferrucci L. A novel, multiplexed targeted mass spectrometry assay for quantification of complement factor H (CFH) variants and CFH-related proteins 1-5 in human plasma. *Immunobiology* 2016 221:1201-1201.
78. Borgogna J*, Roberts D, Rath JM, Glover ED, Ravel J, **Shardell M**, Yeoman CJ, Brotman RM, Nelson TM. Cigarette smoking is associated with an altered metabolomics profile of the vaginal environment. *American Journal of Obstetrics & Gynecology* 2016 215:815.
79. **Shardell M**, Colpo M, Bandinelli S, Ferrucci L. Longitudinal 25-hydroxyvitamin D and depressive symptoms with structural models: The InCHIANTI Study. *Gerontologist* 2016 56 (Suppl 3): 438.
80. Rathbun AM*, **Shardell M**, Gruber-Baldini A, Orwig D, Hicks G, Stuart EA, Hochberg MC, Magaziner J. Time-varying effect of cumulative depressive symptoms on physical performance following hip fracture. *Gerontologist* 2016 56 (Suppl 3): 61.
81. Salimi S*, **Shardell M**, Huang Y, Gruber-Baldini A, Miller R, Guralnik J, Orwig D, Magaziner J. TNFalphaR-1 and frailty in men and women after hip fracture: findings from the Baltimore Hip Studies. *Gerontologist* 2016 56 (Suppl 3): 177.
82. **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. *Innovation in Aging* 2017 1 (suppl 1): 8.
83. **Shardell M**. Combining shared parameter models with structural models to overcome death bias in aging research. *Innovation in Aging* 2017 1 (suppl 1): 19.
84. **Shardell M**. Addressing unmeasured confounding in vitamin D research in older adults. *Innovation in Aging* 2018 2 (suppl 1): 812-813.
85. Rathbun AM*, Gallo JJ, Stuart EA, **Shardell M**, Gruber-Baldini AL, Orwig D, Ryan A, Magaziner J. Depressive symptom subtypes in older adults after hip fracture. *Innovation in Aging* 2018 2 (suppl 1): 510.
86. Adelnia F*, **Shardell M**, Bergeron C, Fishbein K, Spencer R, Reiter D, Ferrucci L. Skeletal muscle perfusion in post-exercise hyperemia in young and old adults as assessed by diffusion-weighted MRI. *Innovation in Aging* 2018 2 (suppl 1): 103.
87. Osawa Y*, Chiles Shaffer N*, **Shardell M**, Studenski S, Ferrucci L. Age-associated changes in peak torque and body composition: association with mobility decline. *Innovation in Aging* 2018 2 (suppl 1): 95.
88. Borgogna JL*, Santori EK, Nelson TM, Ravel J, **Shardell MD**, Gravitt P, Brotman RM, Yeoman CJ. HPV is associated with an altered metabolomic profile in the vaginal tract. *American Journal of Obstetrics and Gynecology* 2018 219:636-636.
89. Rathbun A*, Magaziner J, **Shardell M**, Beck T, Yerges-Armstrong L, Orwig D, Hicks G, Salimi S, Ryan A, Hochberg M. Differences in geometric strength at the contralateral hip between men with hip fracture and non-fractured comparators. *Journal of Bone and Mineral Research* 2018 33:395-396.
90. Adelnia F*, Urbanek J, Osawa Y, **Shardell M**, Simonsick EM, Schrack JA, Ferrucci L. The association between moderate-to-vigorous physical activity and muscle oxidative capacity in older adults. *Innovation in Aging* 2019 3 (suppl 1):84.
91. Simonsick EM, Moore AZ, **Shardell M**, Shaffer NC, Tanaka T. The Baltimore Longitudinal Study of Aging: opportunities for research on women's health and aging. *Innovation in Aging* 2019 3 (suppl 1):355.

92. Levine ME, Kuo P, Schrack J, Simonsick EM, Resnick S, **Shardell M**, Ferrucci L. Systems-level modeling of biological and molecular aging changes over time. *Innovation in Aging* 2019 3 (suppl 1):579.
93. Schrack JA, Kuo P-L*, Simonsick EM, Resnick SM, Levine M, **Shardell M**. Trajectories of phenotypic markers of aging as precursors to functional change. *Innovation in Aging* 2019 3 (suppl 1):579.
94. Kuo P-L*, Levine M, **Shardell M**, Resnick S, Simonsick EM, Schrack JA. Longitudinal change of physical and cognitive functions in BLSA. *Innovation in Aging* 2019 3 (suppl 1):579.
95. **Shardell M**, Kuo P-L*, Schrack J, Simonsick EM, Resnick SM, Levine ME, Ferrucci L. Analytical considerations of developing a phenotypic aging measure: the conceptual framework must come first. *Innovation in Aging* 2019 3 (suppl 1):579.
96. **Shardell M**, Langsetmo L, Demmer R. Gut microbiome in older men: findings from the Osteoporotic Fractures in Men Study. *Innovation in Aging* 2020 4 (suppl 1):839.
97. **Shardell M**, Parimi N, Langsetmo L, Orwoll E, Shikany J, et al. Comparing analytical methods for gut microbiome and aging: gut microbiota and body weight in the MrOS. *Innovation in Aging* 2020 4 (suppl 1):839.
98. Kuo P-L*, **Shardell M**, Schrack JA, Levine M, Simonsick EM, Ferrucci L. Metrics of phenotypic aging from the energetics perspective. *Innovation in Aging* 2020 4 (suppl 1):143.
99. **Shardell M**, Gravitt P, Ravel J, Burke A, Brotman R. Association of vaginal microbiota with the genitourinary syndrome of menopause across reproductive stages. *Innovation in Aging* 2020 4 (suppl 1):171.
100. Kuo P-L, Levine M, Schrack J, **Shardell M**, Ferrucci L. Longitudinal profiling in phenotypic metric of aging. *Innovation in Aging* 2021 5 (suppl 1):5.
101. Bajracharya R, Guralnik J, Magaziner J, **Shardell M**, Rathbun A, Yamashita T, Orwig D. Sex differences in all-cause and infection-specific mortality over 10 years post hip fracture. *Innovation in Aging* 2021 5 (suppl 1):165.
102. Moore A, **Shardell M**, Kuo P-L, Karikkineth A, Ferrucci L, Simonsick E. Fatigability: an early marker of diminished renal function. *Innovation in Aging* 2021 5 (suppl 1):208.
103. Guralnik J, Simonsick E, Kritchevsky S, Cawthon P, **Shardell M**. Sex-specific 25-hydroxyvitamin D threshold concentrations for functional outcomes in older adults. *Innovation in Aging* 2021 5 (suppl 1):471.
104. **Shardell M**, Murphy T. Gerontologic biostatistics: merging with data science and toward personalized medicine. *Innovation in Aging* 2022 6 (suppl 1):177.
105. Mehta R*, **Shardell M**, Ryan A, Dong Y, Beamer B, Hochberg M, Rathbun A. Association of persistent depressive symptoms with physical activity in knee osteoarthritis. *Innovation in Aging* 2022 6 (suppl 1):710.
106. Reeves A, Lopez O, **Shardell M**, Odden M. The role of reproductive aging for Alzheimer's disease and related dementias in the cardiovascular health study. *Innovation in Aging* 2023 7 (suppl 1):437.
107. Stennett C*, Gravitt P, Brotman R, **Shardell M**. Cervical "inflamm-aging" and genitourinary syndrome of menopause: a geroscience case-control study. *Innovation in Aging* 2023 7 (suppl 1):436.
108. Mehta R*, **Shardell M**, Ryan A, Dong Y, Beamer B, Hochberg M, Rathbun A. The mediating role of pain severity in the association between depressive symptoms and gait speed. *Innovation in Aging* 2023 7 (suppl 1):757.
109. Robbins S*, **Shardell M**, Beitelshes A, Miller R, Ravel J, Taylor S, Brotman R. Association of diabetes and vaginal microbiota with the genitourinary syndrome of menopause. *Innovation in Aging* 2023 7 (suppl 1):437.
110. **Shardell M**, Robbins S, Borgogna JL, Stennett C, Yeoman C, Burke A, Ravel J, Brotman R. Associations of urinary conditions with vaginal microbiota and metabolites across reproductive stages. *Innovation in Aging* 2023 7 (suppl 1):436.

111. Chen C, Shen B, Falvey J, **Shardell M**, Ren H. A new method to identify Medicare claims-based factors associated with post-acute recovery in older adults with ADRD. *Innovation in Aging* 2023 7 (suppl 1):978-9.
112. **Shardell M**, Rathbun A, Gruber-Baldini A, Guralnik J, Golden J, Kapogiannis D, Simonsick E. Epidemiology of the inverse comorbidity of dementia and cancer: the challenge of survival bias. *Innovation in Aging* 2023 7 (suppl 1):491.
113. Oberdier M, Zampino M, **Shardell M**, AlGhatrif M, Lakatta E, Simonsick E, Ferrucci L. Red blood cell distribution width: what can it tell us? *Innovation in Aging* 2023 7 (suppl 1):1108-9.
114. Falvey J, Chen C, Johnson A, Ryan K, **Shardell M**, Ren H, Reider L, Magaziner J. Days spent at home before and after hip fracture among Medicare beneficiaries living with dementia: a cohort study. *Innovation in Aging* 2023 7 (suppl 1):403.
115. **Shardell M**. Epidemiologic geroscience innovations at the nexus of reproductive aging and women's health. *Innovation in Aging* 2023 7 (suppl 1):436.
116. Mehta R*, Falvey J, Chen C, Dong Y, **Shardell M**, Yamashita T, Orwig D. Association between pre-hip fracture antidepressant use and hospital length of stay among Medicare beneficiaries. *Innovations in Aging* 2024 8 (suppl 1):162.
117. Mehta R*, Orwig D, Chen C, Dong Y, **Shardell M**, Yamashita T, Falvey J. Association between pre-hip fracture depression and days at home after fracture among Medicare beneficiaries. *Innovations in Aging* 2024 8 (suppl 1):355.
118. Shrestha A*, **Shardell M**, Chen C, Seliger SL, Ginsberg C, Miller L, Tian T, Simonsick E. Association of kidney markers and dual trajectories of cognitive and physical function. *Innovations in Aging* 2024 8 (suppl 1):446.
119. **Shardell M**. Novel methods, models, and metrics for Medicare data to understand recovery after hospitalization for injury. *Innovations in Aging* 2024 8 (suppl 1):637.
120. **Shardell M**, Chen C, Falvey J. Determinants of recovery in the US Medicare Minimum Data Set: handling informative observation times. *Innovations in Aging* 2024 8 (suppl 1):637.
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, Hocherg 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**, AlGhatrif M, Lakatta E, Simonsick E, Ferrucci L. Red blood cell distribution width: further insights. *Innovation 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.
129. **Shardell M**, Borgogna JL, Adelnia F, Chen C, Chen S, Schrack J. Interplay of Technology and Application of Gerontologic Biostatistics and Data Science for Careers in Aging. *Innovation in Aging* 2025 9 (suppl 2):igaf122.1380.

130. Ahmad A*, Rathbun A, **Shardell M**, Semba R, Kalyani R, Ferrucci L. Examining Insulin Resistance and BMI in the Context of Alpha-Klotho and Functional Decline. *Innovation in Aging* 2025 9 (suppl 2):igaf122.2879.
131. **Shardell M**, Rathbun A, Yao S, Marron M, Murthy V, Newman A, Simonsick E. The Inverse Association Between Cancer and Dementia: Is It Still Counterintuitive? *Innovation in Aging* 2025 9 (suppl 2):igaf122.538.
132. Rathbun A, Chen C, **Shardell M**. Plasma Proteomic Profile of Dual Declines in Cognitive and Physical Performance. *Innovation in Aging* 2025 9 (suppl 2):igaf122.1912.
133. Shrestha A*, **Shardell M**, Chen C, Seliger SL, Ginsberg C, Miller L, Cawthon P. Association of Urinary Biomarkers and Joint Longitudinal Cognitive-Gait Trajectories: Health ABC Findings. *Innovation in Aging* 2025 9 (suppl 2):igaf122.2960.
134. Falvey J, Chen C, **Shardell M**, Magaziner J, Mullins CD. Not Always a Walk in the Park: Evaluating Trends and Disparities in Community Mobility Among Older Adults, 2015-2022. *Innovation in Aging* 2025 9 (suppl 2):igaf122.3362.
135. Rathbun A, Dong Y, Beamer B, Luborsky M, **Shardell M**, Campbell C, Lo G, Ryan A. Duloxetine Plus Exercise for Knee Osteoarthritis: Targeting Pain and Depression Using Combined Treatment. *Innovation in Aging* 2025 9 (suppl 2):igaf122.3919.
136. Rathbun A, Brotman R, Borgogna J, Brown S, Ravel J, **Shardell M**. Identifying and Validating Clusters of Menopausal Symptoms Across Reproductive Stages. *Innovation in Aging* 2025 9 (suppl 2):igaf122.3959.
137. Wen T,* Hu J, **Shardell M**, McCoy R, Chen S, Ryan K, Falvey J, Chen C. Air Pollution and Post-Discharge Recovery Among Older Adults Hospitalized for Heart Failure. *Innovation in Aging* 2025 9 (suppl 2):igaf122.4320.
138. Brown S*, France M, Waetjen LE, **Shardell M**, Brotman R, Ravel J, Holm J. Optimizing Taxonomic Assignments and Community State Types for The Vaginal Microbiota in Older Women. *Innovation in Aging* 2025 9 (suppl 2):igaf122.4408.

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. PProject 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.
 41. Research with Real-World Data: Analytical Challenges and Opportunities. Implementing a Maternal health and PRenancy OutcomesVision for Everyone (IMPROVE) Maternal Health Data Innovation & Coordination Hub Webinar Series; 2026.

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 Nonignorable 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.
50. Leveraging auxiliary variables and time-varying latent effect models to address informative observation times in the US Medicare Minimum Data Set. University of Maryland School of Public Health; College Park, Maryland; 2026.
51. Leveraging Auxiliary Variables and Time-Varying Latent Effect Models to Address Informative Observation Times in the US Medicare Minimum Data Set. Joint Statistical Meetings, Boston, MA; 2026.

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, 14th 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.
11. Divergent Metabolic Mechanisms and the Inverse Association between Cancer and Dementia. International Association of Gerontology and Geriatrics World Congress, Amsterdam, the Netherlands; 2026.
12. Leveraging Auxiliary Variables and Time-Varying Latent Effect Models to Address Informative Observation Times in the US Medicare Minimum Data Set. International Biometric Conference, Seoul, South Korea; 2026.

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 1st 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. National 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.
42. Speiser JL, **Shardell M**. Statistics and Data Science in Aging (SDSA): Building a Global Community for Methodological Innovation in Aging Research. National Claude D. Pepper Older Americans Independence Center Annual Meeting, Bethesda, Maryland; 2026.