Caleb H. Miles
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Date of Preparation

November 3, 2025

Personal Data

Name: Caleb H. Miles
Date of Birth: March 5, 1987
Birthplace: Greensboro, NC
Citizenship: United States

Academic Appointments

08/2018–Present	Department of Biostatistics Mailman School of Public Health, Columbia University Assistant Professor

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Education

08/2010–07/2015	Harvard University PhD in Biostatistics, November 2015 Thesis title: Semiparametric Methods for Causal Mediation Analysis and Measurement Error Miles, C.H. 2015. Semiparametric Methods for Causal Mediation Analysis and Measurement Error. Doctoral dissertation, Harvard University, Graduate School of Arts & Sciences. Adviser: Eric J. Tchetgen Tchetgen Minor field of study: Epidemiology of HIV
08/2005–12/2009	University of Alabama B.S. with honors in Mathematics, *magna cum laude*, December 2009 Minor field of study: Engineering

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Training

08/2015–06/2018	Division of Biostatistics University of California, Berkeley

Postdoctoral Fellow
Adviser: Mark J. van der Laan

Honors & Awards

2023	Departmental grant writing initiative, Department of Biostatistics, Columbia Mailman School of Public Health
2022	Calderone Junior Faculty Award, Columbia Mailman School of Public Health
2016	The Biometrics Section of the American Statistical Association's travel award
2015	The Health Policy Statistics Section of the American Statistical Association's student paper award
2014	Travel scholarship, Summer Institute in Statistics and Modeling in Infectious Diseases. University of Washington, Seattle.
2009	Phi Beta Kappa
2005–2009	Presidential Scholarship, University of Alabama
2005	National Merit Scholar

Academic Service

09/2025–present	Curriculum Committee, Department of Biostatistics, Columbia Mailman School of Public Health
09/2021–08/2025	MS Advising Oversight Committee, Department of Biostatistics, Columbia Mailman School of Public Health • Chair 09/2021–08/2025
09/2021–08/2025	Diversity Committee, Department of Biostatistics, Columbia Mailman School of Public Health • Chair 09/2020–08/2025 • Co-chair 09/2019–08/2020
09/2018–present	Inference Qualifying Exam Committee, Department of Biostatistics, Columbia Mailman School of Public Health • Chair 09/2021–present • Co-chair 09/2019–08/2021
09/2018–present	Communications Committee, Department of Biostatistics, Columbia Mailman School of Public Health • Co-chair 08/2025–present
09/2018–08/2025	Student Recruitment Committee, Department of Biostatistics, Columbia Mailman School of Public Health
06/2020–05/2021	Organizer, Levin Lecture Series, Department of Biostatistics, Columbia Mailman School of Public Health
04/2020–03/2021	Master's of Public Health Core Review Working Group Subgroup for the Research Methods and Applications Studio, Columbia Mailman School of Public Health
09/2018–08/2020, 09/2025–present	Master's Program Admissions Committee, Department of Biostatistics, Columbia Mailman School of Public Health

Professional Organizations, Societies, and Service

Grant Review Service

10/2024	*Ad hoc* reviewer, NIDA ZDA1 LXF-E(J1) Special Emphasis Panel
12/2021	*Ad hoc* reviewer, NINDS ZNS1 SRB-G(46) Special Emphasis Panel

Editorial Board

05/2023–Present	Associate Editor, *Journal of the Royal Statistical Society: Series C (Applied Statistics)*
11/2018–Present	Associate Editor, *International Journal of Biostatistics*

Journal and Conference Proceedings Reviewer

American Journal of Epidemiology
The American Statistician
Annals of Applied Statistics
Biometrical Journal
Biometrics
Biometrika
Biostatistics
Causal Learning and Reasoning (CLeaR)
Conference on Learning Theory (COLT)
Conference on Neural Information Processing Systems (NeurIPS)
Depression and Anxiety
Epidemiology
International Conference on Machine Learning
International Journal of Biostatistics
Journal of Business and Economic Statistics
Journal of Causal Inference
Journal of Computational and Graphical Statistics
Journal of Educational and Behavioral Statistics
Journal of the American Statistical Association
Journal of the Royal Statistical Society: Series B
Journal of the Royal Statistical Society: Series C
Lifetime Data Analysis
Observational Studies
Proceedings of the National Academy of Sciences
Psychiatric Services
Statistica Sinica
Statistical Methods in Medical Research
Statistical Science
Statistics in Biosciences
Statistics in Medicine
Uncertainty in Artificial Intelligence (UAI)

Memberships and Positions

05/2025–Present	Member at large, Society for Causal Inference
04/2021–Present	Society for Causal Inference
03/2021–02/2022	Association for Clinical and Translational Science
01/2015–Present	Eastern North American Region (ENAR) of the International Biometrics Society
06/2012–Present	American Statistical Association

Fellowship and Grant Support

Present Support

08/2024–05/2029	1R01 DA059824-01A1 NIH / NIDA (Miles, Kara Rudolph) Leveraging harmonized data to improve external validity and efficiency of clinical trials for treating opioid use disorder Contact Principal Investigator
01/2024–12/2028	1P30 HS029763-01 AHRQ (Jason Adelman, Carmela Alcantara, Ruth Masterson-Creber, Nathalie Moise) Columbia-Cornell-Einstein EQUIP+ Center for Learning Health System, Science Co-Investigator
08/2023–08/2026	1R34 MH134046-01 NIH / NIMH (Claire Greene) Risk and protective factors for common mental disorders among populations during migration. A pilot cohort study among migrants and asylum seekers in Mexico Co-Investigator
08/2023–08/2026	1RF1 MH134561-01 NIH / NIMH (Jeremy Kane, Chris Desmond) The impact of changes in social determinants of health on adolescent and young adult mental health during the COVID-19 pandemic: A longitudinal study of the Asenze cohort in South Africa Co-Investigator
08/2021–05/2026	R01 DA054553-01, NIH / NIDA (Dustin Duncan, Justin Knox) Cannabis use, PrEP and HIV transmission risk Among Black MSM in Chicago Co-Investigator
07/2016–03/2025	UL1 TR001873, NIH / NCATS (Muredach Reilly) Clinical and Translational Science Award - Biostatistics Resource Biostatistician

Past Support

10/2022–11/2024	David Lynch Foundation (Yuval Neria) A Phase 3 Clinical Trial on Transcendental Meditation and Posttraumatic Stress Disorder, Suicide, and Substance Use in Veterans Co-Investigator
06/2022–05/2024	1R21 MH130217-01, NIH / NIMH (Theo Sandfort)

	In-depth Understanding of HIV Risk Behavior among Men Who Have Sex With Men in Sub-Saharan Africa: Secondary Analysis of HPTN 075 Data Co-Investigator
06/2022–04/2024	R21 MH126096-01A1, NIH / NIMH (Jean Guglielminotti) Obstetric Anesthesia and Postpartum Depression Co-Investigator
09/2018–04/2024	3R01 MD013554-05S1, NIH / NIMHHD (Dustin Duncan) Medical Mistrust as a Barrier to COVID-19 and HIV Services Among Transgender Women of Color Co-Investigator
09/2018–07/2023	R01 HS026493-02, NIH / AHRQ (Caleb Ing) Prenatal Exposure to Anesthesia and Subsequent Neurodevelopmental Disorders Co-Investigator
03/2020–02/2023	TRANSFORM KL2 Mentored Career Development Award, Irving Institute for Clinical and Translational Research (Daichi Shimbo, Jeanine Genkinger) Personalizing Treatment Decisions and Understanding Causal Mechanisms for Functional and Occupational Outcomes Among Patients With Schizophrenia Award recipient
09/2018–05/2022	R01 MH11719, NIH / NIMH (Michael Compton) A Trial of a Police-Mental Health Linkage System for Jail Diversion and Reconnection to Care Co-Investigator
01/2020–12/2021	Columbia Public Health Innovation Fund (Miles, Kara Rudolph, Linda Valeri) New York Causality Network Principal Investigator
06/2014–06/2021	Bill & Melinda Gates Foundation (Dilys Walker) Preterm Birth Initiative Lead Statistician Responsibilities: Oversee impact evaluation of two large facility-level implementation projects to improve preterm birth outcomes in East Africa. Supervise doctoral student.

Educational Contributions

Direct Teaching

Specific Courses

Fall 2024	Theory of Statistical Inference 1 (9 enrolled students)
Fall 2023	Theory of Statistical Inference 1 (9 enrolled students)
Fall 2022	Theory of Statistical Inference 1 (9 enrolled students)
Fall 2021	Theory of Statistical Inference 1 (8 enrolled students)
Fall 2020	Theory of Statistical Inference 1 (6 enrolled students)
Fall 2019	Theory of Statistical Inference 1 (6 enrolled students)

Workshops

July 2024	Causal Mediation Analysis Training: Methods and Applications Using Health Data (co-instructor, 44 students, 3-day intensive boot camp of seminars and hands-on analytical sessions), Skills for Health And Research Professionals (SHARP) Training, Columbia Mailman School of Public Health, New York, NY
April 2024	Causal Mediation Analysis (co-instructor, 50 students, 1-day workshop of seminars), Late Life Learning Cognition and Aging Study capacity building, American University of Beirut, Virtual
August 2023	Causal Mediation Analysis Training: Methods and Applications Using Health Data (co-instructor, 43 students, 3-day intensive boot camp of seminars and hands-on analytical sessions), Skills for Health And Research Professionals (SHARP) Training, Columbia Mailman School of Public Health, New York, NY
March 2023	Spring School on Causality (co-instructor, 80 students, 4-day workshop of seminars and exercises), Sorbonne Center for Artificial Intelligence (SCAI), Paris, France
August 2022	Causal Mediation Analysis Training: Methods and Applications Using Health Data (co-instructor, 49 students, 3-day intensive boot camp of seminars and hands-on analytical sessions), Skills for Health And Research Professionals (SHARP) Training, Columbia Mailman School of Public Health, New York, NY
July 2021	Causal Mediation Analysis Training: Methods and Applications Using Health Data (co-instructor, 45 students, 3-day intensive boot camp of seminars and hands-on analytical sessions), Skills for Health And Research Professionals (SHARP) Training, Columbia Mailman School of Public Health, New York, NY
August 2020	Causal Mediation Analysis Training: Methods and Applications Using Health Data (co-instructor, 25 students, 3-day intensive boot camp of seminars and hands-on analytical sessions), Skills for Health And Research Professionals (SHARP) Training, Columbia Mailman School of Public Health, New York, NY
July 2019	Causal Mediation Analysis Training: Methods and Applications Using Health Data (co-instructor, 21 students, 3-day intensive boot camp of seminars and hands-on analytical sessions), Skills for Health And Research Professionals (SHARP) Training, Columbia Mailman School of Public Health, New York, NY

Teaching Assistant

Fall 2014	Department of Biostatistics, Harvard School of Public Health Course: Methods I Professor: Eric J. Tchetgen Tchetgen
Fall 2013	Department of Biostatistics, Harvard School of Public Health Course: Methods I Professor: Eric J. Tchetgen Tchetgen

Fall 2012	Department of Biostatistics, Harvard School of Public Health Course: Introduction to Statistical Methods Professor: Bernard Rosner Note: Head teaching assistant & responsible for two recitation sections
Fall 2011	Department of Biostatistics, Harvard School of Public Health Course: Introduction to Statistical Methods Professor: Kimberlee Gauvreau

Guest Lectures

03/2022	"A Primer on Causal Inference", P8586: Applied Methods in Health Services and Outcomes Research, Columbia University, New York, NY
02/2022	"Introduction to Causal Inference: Causal Diagrams & Marginal Structural Models", Neurology Training Seminar, Columbia University, New York, NY
02/2022	"Introduction to Causal Inference: Potential Outcomes & Confounding", Neurology Training Seminar, Columbia University, New York, NY
01/2020	"Prediction/Machine Learning and Causality", Substance Abuse Epidemiology Training Program Seminar, Columbia University, New York, NY
11/2019	"Prediction/Machine Learning and Causality", Biostatistics, Epidemiology, and Research Design's Biostatistics in Action Series, Columbia University, New York, NY
10/2019	"Prediction/Machine Learning and Causality", Clinical Translational Science Awards' Patient-Oriented Research Colloquium, Columbia University, New York, NY
03/2019	"Introduction to Causal Inference: Causal Diagrams & Marginal Structural Models", Neurology Training Seminar, Columbia University, New York, NY
02/2019	"Introduction to Causal Inference: Potential Outcomes & Confounding", Neurology Training Seminar, Columbia University, New York, NY
11/2017	Causal Inference With Interference. Advanced Topics in Causal Inference, University of California, Berkeley
03/2016	Estimation and Inference for a Causal Effect With i.i.d. and Non-i.i.d. Data. Introduction to Modern Biostatistical Theory and Practice, University of California, Berkeley

Postdoctoral Advisees

2025–present	Taehyeon Koo (co-mentor with Kara Rudolph and Elizabeth Stuart)
2025–present	Oliver Hines (primary mentor with Kara Rudolph)
2023–2024	Harsh Parikh (secondary mentor with Kara Rudolph and Elizabeth Stuart; First employment: Assistant Professor of Biostatistics at Yale University)

Doctoral Advisees

2025	Amy Pitts (PhD; Co-adviser; First employment: Principal Biostatistician at Regeneron Pharmaceuticals)
2023	Soohyun Kim (PhD; Co-adviser; First employment: Postdoctoral Associate at Weill Cornell Medicine)

Doctoral Committees

2025	Ting-Hsuan Chang (Oral Qualifying Exam)
2025	Neal Jawadekar, Epidemiology, Columbia University (Dissertation Defense)
2025	Safiya Sirota (Oral Qualifying Exam)
2025	James Kelliher, Biostatistics, University of Pennsylvania (Candidacy Exam)
2024	Zexi Cai (Oral Qualifying Exam)
2024	Craig Heck, Epidemiology, Columbia University (Dissertation Defense)
2024	Melanie Mayer (Oral Qualifying Exam, Dissertation Defense)
2022	Denise Shieh (Dissertation Defense)
2021	Jiaxi Yang, Teacher's College, Columbia University (Dissertation Defense)
2020	Xiaoqi Lu (Dissertation Defense)
2020	Eun-Jeong Oh (Dissertation Defense)
2019–2020	Rui Lu, Teacher's College, Columbia University (Dissertation Proposal, Dissertation Defense)

Training Fellowships Sponsored/Mentored

2023–present	Mentor, Reem Waziry (Associate Research Scientist at the Vagelos College of Physicians and Surgeons, Columbia University) — NIHK99 Biological Aging, the Proteome and Cognitive Resilience among stroke survivors

Other Mentorship

2024	Mentor, Summer Training Institute in Biostatistics and Data Science, Department of Biostatistics, Columbia Mailman School of Public Health
2023–2025	Master's practicum adviser, Zheshu Jiang (M.S. student), Department of Biostatistics, Columbia University Mailman School of Public Health
2023	Mentor, Summer Training Institute in Biostatistics and Data Science, Department of Biostatistics, Columbia Mailman School of Public Health
2022	Mentor, Summer Training Institute in Biostatistics and Data Science, Department of Biostatistics, Columbia Mailman School of Public Health
2022–present	Research supervisor, James Kelliher (M.S. student, recipient of Chair's Award for Outstanding Master's Student), Department of Biostatistics, Columbia University Mailman School of Public Health
2021	Research supervisor, Minhyuk Choi (M.S. student), Department of Biostatistics, Columbia University Mailman School of Public Health
2021–2022	Research supervisor (M.S. Theory and Methods track), Bin Yang, Department of Biostatistics, Columbia University Mailman School of Public Health
2021	Mentor, Biostatistics Epidemiology Summer Training Diversity Program, Department of Biostatistics, Columbia Mailman School of Public Health
2021–present	Research adviser, Ngoc Duong (M.S. graduate), Columbia University Irving Medical Center
2021	Master's practicum adviser (M.S. Theory and Methods track), Ngoc Duong, Department of Biostatistics, Columbia University Mailman School of Public Health
2019	Mentor, Biostatistics Epidemiology Summer Training Diversity Program, Department of Biostatistics, Columbia Mailman School of Public Health

2019–2020	Research supervisor, Bingyu Sun (M.S. student), Department of Biostatistics, Columbia University Mailman School of Public Health
2019–2020	Research supervisor, Youn Kyeong Chang (M.S. student), Department of Biostatistics, Columbia University Mailman School of Public Health
2014	Graduate mentor, Summer Program in Biostatistics & Computational Biology, Department of Biostatistics, Harvard School of Public Health

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Publications

Original, Peer Reviewed Articles

Refereed Journal Articles

1. Parikh, H., Nguyen, T.Q., Stuart, E., Rudolph, K.E., **Miles, C.H.** (2025). A Cautionary Tale on Integrating Studies with Disparate Outcome Measures for Causal Inference. preprint arXiv:2505.11014 *Neural Information Processing Systems* (Forthcoming)

2. Guo, L., Li, G., **Miles, C.H.**, Cid, M., Hua, M., Olfson, M., Ing, C. (2025). Using Quantity of Service Data in Medicaid Claims to Estimate Anesthesia Time. *Anesthesiology* (In press)

3. Waziry, R., **Miles, C.H.**, Hagg, H., Kraus, W., Goudsmit, H., Williams, O. (2025). Vascular-related biological stress, DNA Methylation, Allostatic Load and Domain-specific Cognition: An Integrated Machine Learning and Causal Inference Approach. *BMC Neurology*, 25(1):174.

4. Isik, O.G., Guo, L., Ben-Ezra, A., Ganesh, S., Hua, M., **Miles, C.H.**, Olfson, M., Geneslaw, A., Ing, C. (2025). Neurodevelopmental and behavioural disorders after perioperative invasive mechanical ventilation in paediatric surgical admissions. *British Journal of Anaesthesia*, 134(5):1440–1449.

5. Hartman, H.S., Kim, E., Carbone, S., **Miles, C.H.**, Reilly, M.P. (2025). Sex differences in the relationship between body composition and cardiac structure and function. *European Heart Journal - Cardiovascular Imaging*, 26(2):337–348.

6. Isik, O.G., Junaid, S., Guo, L., Lackraj, D., Landau, R., **Miles, C.H.**, Pennell, C., von Ungern Sternberg, B.S., Whitehouse, A.J.O., Li, G., Ing, C. (2024). Behavioural and neuropsychological outcomes in children exposed in utero to maternal labour epidural analgesia. *British Journal of Anaesthesia*, 133(2):334–343.

7. Massa, A., Yang, Z., Tamashiro, R., Isik, O., Landau, R., **Miles, C.H.**, Von Ungern-Sternberg, B.S., Whitehouse, A., Li, G., Pennell, C., Ing, C. (2024) Mode of delivery and behavioral and neuropsychological outcomes in children at 10 years of age. *Journal of Perinatal Medicine*, 52(9):1010–1019.

8. Chung, R., Kurtzman, J.T., Joffe, B.I., Vila-Reyes, H., **Miles, C.H.**, DeCastro, G.J., Anderson, C.B., Wei, A.Z., Drake, C.G., McKiernan, J.M., and Lenis, A.T. (2024). Long Term Oncologic Outcomes in Patients with Muscle Invasive Bladder Cancer Misclassified as Achieving a Complete Clinical Response to Neoadjuvant Chemotherapy. *JU Open Plus*, 2(9):e00088.

9. Ing, C., Silber, J., Lackraj, D., Olfson, M., **Miles, C.H.**, Reiter, J.G., Jain, S., Chihuri, S., Guo, L., Gyamfi-Bannerman, C., Wall, M., Li, G. (2024). Behavioural disorders after prenatal

exposure to anaesthesia for maternal surgery. *British Journal of Anaesthesia*, 132(5), 899–910.

10. Singh, T., Pitts, A.J., **Miles, C.H.**, Ing, C.H. (2023). Anesthetic Exposure During Early Childhood and Neurodevelopmental Outcomes: Our Current Understanding. *Current Anesthesiology Reports*, 14(1), 15-24.

11. Knox, J.R., Dolotina, B., Moline, T., Matthews, I., Durrell, M., Hanson, H., Almirol, E., Hotton, A., Pagkas-Bather, J., Chen, Y.T., English, D., Manuzak, J., Rower, J., **Miles, C.H.**, Millar, B., Jean-Louis, G., Rendina, H.J., Martins, S.S., Grov, C., Hasin, D.S., Carrico, A.W., Shoptaw, S., Schneider, J.A., Duncan, D.T. (2023). HIV Prevention and Care Among Black Cisgender Sexual Minority Men and Transgender Women: Protocol for an HIV Status–Neutral Cohort Study Using an Observational-Implementation Hybrid Approach. *JMIR Research Protocols*, 12(1), e48548.

12. Rudolph, K.E., Williams, N., **Miles, C.H.**, Antonelli, J., Díaz, I. (2023). All models are wrong, but which are useful? Comparing parametric and nonparametric estimation of causal effects in finite samples. preprint arXiv:2211.10310. *Journal of Causal Inference*, 11(1), 20230022.

13. **Miles, C.H.** (2023). On the Causal Interpretation of Randomised Interventional Indirect Effects. *Journal of the Royal Statistical Society: Series B*, 85(4), 1154–1172.

14. Margolin, E.J., Schoenfeld, D., **Miles, C.H.**, Merrill, S.B., Raman, J.D., Thompson, R.H., Reese, A.C., Parekh, D.J., Brown, E.T., Klausner, A., Williams, D.H., Lee, R.K., Zaslau, S., Guzzo, T.J., Shenot, P.J., Anderson, C.B., Badalato, G.M. (2023). Longitudinal Changes in the Operative Experience for Junior Urology Residents. *Urology*, 179, 32-38.

15. Ha, A.S., Wang, C., Haas, C.R., **Miles, C.H.**, Katz, M.J., Shah, O. (2023). Differences in Management of Pregnant Women with Obstructing Infected Ureteral Stones: A Population-Based Analysis. *International Journal of Urology*, 30(2), 196-202.

16. Ing, C., DeStephano, D., Hu, T., Reighard, C., Lackraj, D., Geneslaw, A., **Miles, C.H.**, Kim, M. (2022). Intraoperative blood pressure and long-term neurodevelopmental function in children undergoing ambulatory surgery. *Anesthesia & Analgesia*, 135(4):787–797.

17. Wallace, B.K., **Miles, C.H.**, Anderson, C.B. (2022). Effects of Race and Socioeconomic Status on Treatment for Localized Renal Masses in New York City. *Urologic Oncology: Seminars and Original Investigations*, 40(2), 65.e19-65.e26.

18. Margolin, E.J., Wallace, B.K., Movassaghi, M., **Miles, C.H.**, Shaish, H., Golan, R., Katz, M.J., Anderson, C.B., Shah, O. (2022) Predicting Sepsis in Patients with Ureteral Stones in the Emergency Department. *Journal of Endourology*, 36(7), 961-968.

19. Alukal, J., Ha, A., Han, D., Wallace, B., **Miles, C.H.**, Raup, V., Punjani, N., Badalato, G. (2022) A Population-based Analysis of Predictors of Penile Surgical Intervention among Inpatients with Acute Priapism. *International Journal of Impotence Research*, 1–7.

20. Margolin, E.J., Wallace, B.K., Ha, A.S., Katz, M.J., Mikkilineni, N., **Miles, C.H.**, Healy, K.A., Weiner, D.M., Shah, O. (2022). Impact of an Acute Care Urology Service on Timeliness and Quality of Care in the Management of Nephrolithiasis. *Journal of Endourology*, 36(3), 351-359.

21. Ha, A.S., Pak, J., Haas, C.R., **Miles, C.H.**, Weiner, D.M., Anderson, C.B., Badalato, G.M. (2021). A Novel Risk Prediction Model to Triage Difficult Urethral Catheterizations. *Urology*, 157, 35–40.

22. Margolin, E.J., Pina Martina, L.A., **Miles, C.H.**, Wenske, S., McKiernan, J.M., DeCastro, G.J., Hyams, E.S., Drake, C.G., Lim, E., Stein, M.N., Deutsch, I., Anderson, C.B. (2021). Telemedicine in Management of Genitourinary Malignancies: Patient and Physician Perspectives. *Urologic Oncology*, 39(8), 480–486.

23. Geneslaw, A.S., Lu, Y., **Miles, C.H.**, Hua, M., Cappell, J., Smerling, A.J., Olfson, M., Edwards, J.D., Ing, C. (2021). Long-Term Increases in Mental Disorder Diagnoses After Invasive Mechanical Ventilation for Severe Childhood Respiratory Disease. *Pediatric Critical Care Medicine*, 22(12), 1013–1025.

24. Ha, A., Wallace, B.K., **Miles, C.H.**, Raup, V., Punjani, N., Badalato, G.M., Alukal, J.P. (2021). Exploring the Use of Exchange Transfusion in the Surgical Management of Priapism in Sickle Cell Disease: A Population-Based Analysis. *Journal of Sexual Medicine*, 18(10), 1788–1796.

25. Duncan, D.T., Ransome, Y., Park, S.H., Jackson, S.D., Kawachi, I., Branas, C.C., Knox, J., Al-Ajlouni, Y.A., Mountcastle, H.D., **Miles, C.H.**, Hickson, D.A. (2021). Neighborhood Social Cohesion, Religious Participation and Sexual Risk Behaviors Among Cisgender Black Sexual Minority Men in the Southern United States. *Social Science & Medicine*, 279, 113913.

26. Ing, C., Landau, R., DeStephano, D., **Miles, C.H.**, von Ungern-Sternberg, B.S., Li, G., and Whitehouse, A.J.O. (2021). Prenatal Exposure to General Anesthesia and Childhood Behavioral Deficit. *Anesthesia & Analgesia*, 10–1213.

27. **Miles, C.H.**, Shpitser, I., Kanki, P., Meloni, S., and Tchetgen Tchetgen, E. J. (2020). On semiparametric estimation of a path-specific effect in the presence of mediator-outcome confounding. *Biometrika*, 107(1), 159–172.

28. **Miles, C.H.**, Petersen, M., and van der Laan, M.J. (2019). Causal inference when counterfactuals depend on the proportion of all subjects exposed. *Biometrics*, 75(3), 768–777.

29. **Miles, C.H.**, Schwartz, J., and Tchetgen Tchetgen, E.J. (2018). A class of semiparametric tests of treatment effect robust to confounder measurement error. *Statistics in Medicine*, 37(24), 3403–3416.

30. **Miles, C.H.**, Shpitser, I., Kanki, P., Meloni, S., and Tchetgen Tchetgen, E.J. (2017). Quantifying an adherence path-specific effect of antiretroviral therapy in the Nigeria PEPFAR program. *Journal of the American Statistical Association*, 112(520), 1443–1452.

31. **Miles, C.H.**, Kanki, P., Meloni, S., and Tchetgen Tchetgen, E.J. (2017). On partial identification of the natural indirect effect. *Journal of Causal Inference*, 5(2).

Selected Works in Progress

1. **Miles, C.H.** and Chambaz, A. (2025). Optimal tests of the composite null hypothesis arising in mediation analysis. preprint arXiv:2107.07575 (Acceptable after minor revisions at *Journal of the American Statistical Association*)

2. Pitts, A.J.; Ing, C.; Guo, L.; **Miles, C.H.** (2025). Addressing an extreme positivity violation to distinguish the causal effects of surgery and anesthesia via separable effects. (Undergoing major revisions for discussion paper in *Journal of the Royal Statistical Society: Series C*)

3. **Miles, C.H.**, Valeri, L., Coull, B. (2025). Measurement Error-Robust Causal Inference via Constructed Instrumental Variables. preprint arXiv:2406.00940 (Undergoing major revisions for *Biometrics*)

4. Hines, O.J.; **Miles, C.H.** (2025). Learning density ratios in causal inference using Bregman–Riesz regression. preprint arXiv:2510.16127 (Under review)

5. Sandfort, T.G.M., **Miles, C.H.**, Knox, J., Mudhune, V., Corbeil, T., Hamilton, E., Cummings, V., Chimwaza, Y., Marais, A., Reynolds, D. (2025) Criminalization and the expression and experience of same-sex sexuality in African men: Findings from the HIV Prevention Trials Network 075 study. (Under review)

6. Heck, C.J., Mitchell, S., McAndrew, M., Chang, M., Ding, E., Telrandhe, N.V., Wallach, S., Zucker, J., Sobieszczyk, M.E., **Miles, C.H.**, Santelli, J.S., Chiasson, M.A., Castor, D., Abdool Karim, Q. (2025). Determinants and effects of HIV risk perception in adolescents & young adults in eastern and southern Africa: a scoping review of longitudinal studies. (Under review)

7. Waziry, R., **Miles, C.H.**, Williams, O., Tiemeier, H. (2025). An Integrated Causal Assessment of Biological Aging, Immunity, Inflammation and Cognition After Stroke. (Under review)

8. Pitts, A.J.; Ross, R.; **Miles, C.H.**; Rudolph, K. (2024). Discrepancies in Substance Use Reporting: A Comparative Analysis of the Treatment Episode Data Set – Admissions and Clinical Trial Data. (Under review)

9. Waziry, R., **Miles, C.H.**, Williams, O. (2024). The Role of Aging, Inflammation and Genetic risk factors in the Relationship between Stroke, Short- and Long-term Cognition in Older Adults. (Under review)

10. Duong, N.Q., Pitts, A.J., Kim, S., **Miles, C.H.** (2023). Sensitivity analysis for transportability in multi-study, multi-outcome settings. preprint arXiv:2301.02904

11. Stillman, M.D., Li, G., **Miles, C.H.**, McKiernan, J.M., Anderson, C.B. (2022). Increased Utilization of Intravesical Chemotherapy Following the Introduction of Gemcitabine. (Under review)

Software

1. Chambaz, A. and **Miles, C.H.** (2021). mediation.test: This packages proposes more powerful tests of the composite null hypothesis arising in mediation analysis. R package version 1.0.0.

Invited Talks

1. "Addressing an extreme positivity violation to distinguish the causal effects of surgery and anesthesia via a separable effects model" (with discussion by James Robins), Online Causal Inference Seminar, Virtual (11/2025)

2. "Addressing an extreme positivity violation to distinguish the causal effects of surgery and anesthesia via a separable effects model", Penn Center for Causal Inference Distinguished Speaker Seminar, University of Pennsylvania, Philadelphia, PA (10/2025)
3. "Leveraging multi-study, multi-outcome data to improve external validity and efficiency of clinical trials for medications for opioid use disorder", International Conference on Econometrics and Statistics, Tokyo, Japan, Virtual (08/2025)
4. Discussant for session "Pushing Boundaries on Solutions for Non-ignorable Missingness", Joint Statistical Meetings, Nashville, TN (08/2025)
5. "The central role of the mediator process in mediation analysis", Joint Statistical Meetings, Nashville, TN (08/2025)
6. "Leveraging multi-study, multi-outcome data to improve external validity and efficiency of clinical trials for managing schizophrenia", Department of Statistics and Data Science Seminar, Northwestern University, Evanston, IL (01/2025)
7. "Overcoming an extreme positivity violation to distinguish the causal effects of surgery and anesthesia via a separable effects model", Harvard Biostatistics Colloquium, Harvard University, Boston, MA (10/2024)
8. "Optimal tests of the composite null hypothesis arising in mediation analysis", Joint Statistical Meetings, Portland, OR (08/2024)
9. "Measurement error-robust causal inference via constructed instrumental variables", Warwick Machine Learning Group, University of Warwick, Virtual (07/2024)
10. "Causal inference in multi-study, multi-outcome settings", American Causal Inference Conference, Seattle, WA (05/2024)
11. "Leveraging multi-study, multi-outcome data to improve external validity and efficiency of clinical trials for managing schizophrenia", Causal inference reading group, University of Cambridge, Cambridge, United Kingdom (04/2024)
12. "Leveraging multi-study, multi-outcome data to improve external validity and efficiency of clinical trials for managing schizophrenia", McGill Biostatistics Seminar, McGill University, Virtual (01/2024)
13. "Two fundamental problems in causal mediation analysis", Online Causal Inference Seminar, Virtual (10/2023)
14. "Some fundamental problems in causal mediation analysis", Thematic Quarter on Causality – Opening Session, Institute Henri Poincaré, Paris, France (04/2023)
15. "Two fundamental problems in causal mediation analysis", Center for Data Analysis and Statistical Science - Adolphe Quetelet Seminar Series, Ghent University, Ghent, Belgium (04/2023)
16. "Optimal tests of the composite null hypothesis arising in mediation analysis", Statistics Seminar, Purdue University, West Lafayette, IN, Virtual (10/2022)
17. "Optimal tests of the composite null hypothesis arising in mediation analysis", Biostatistics Seminar, Northwestern University, Chicago, IL, Virtual (03/2022)

18. "Optimal tests of the composite null hypothesis arising in mediation analysis", IMS workshop on "Causal Inference with Big Data", National University of Singapore, Virtual (12/2021)

19. "On the Causal Interpretation of Randomized Interventional Indirect Effects", Computational and Methodological Statistics, London, United Kingdom, Hybrid (12/2021)

20. "Optimal tests of the composite null hypothesis arising in mediation analysis", Practice and Research at the Intersection of Information, Society, and Methodology (PRIISM) Virtual Seminar, New York University, Virtual (10/2021)

21. "Optimal tests of the composite null hypothesis arising in mediation analysis", Biostatistics Seminar Series, University of Colorado Denver, Virtual (10/2021)

22. "More Powerful Tests of the Composite Null Hypothesis Arising in Mediation Analysis", International Chinese Statistical Association 2021 Applied Statistics Symposium, Virtual (09/2021)

23. "More Powerful Tests of the Composite Null Hypothesis Arising in Mediation Analysis", Computational and Methodological Statistics, Virtual (12/2020)

24. "Measurement Error-Robust Causal Inference via Synthetic Instrumental Variables", Computational and Methodological Statistics, London, United Kingdom (12/2019)

25. "Causal Inference When Counterfactuals Depend on the Proportion of All Subjects Exposed", Technology, Operations, and Statistics, New York University, New York, NY (12/2019)

26. "Causal Inference When Counterfactuals Depend on the Proportion of All Subjects Exposed", Operations Research and Information Engineering, Cornell Tech, New York, NY (10/2019)

27. "Causal Inference When Counterfactuals Depend on the Proportion of All Subjects Exposed", Biostatistics Seminar, Johns Hopkins University, Baltimore, MD (10/2019)

28. "Measurement Error-Robust Causal Inference via Synthetic Instrumental Variables", Joint Statistical Meetings, Denver, CO (07/2019)

29. "Causal Inference When Counterfactuals Depend on the Proportion of All Subjects Exposed", Séminaire de Statistiques, Université Paris-Descartes, Paris, France (05/2019)

30. "Causal Inference When Counterfactuals Depend on the Proportion of All Subjects Exposed", Séminaire de Biostatisique, Université de Bordeaux, Bordeaux, France (05/2019)

31. "Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference", Levin Lecture Series, Columbia University, New York, NY (01/2018)

32. "Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference", Biostatistics Seminar, Vanderbilt University, Nashville, TN (01/2018)

33. "Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference", Statistics Seminar, Colorado State University, Fort Collins, CO (01/2018)

34. "Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference", Biostatistics Seminar, MD Anderson Cancer Center, Houston, TX (01/2018)

35. "Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference", Biostatistics Seminar, University of Pennsylvania, Philadelphia, PA (01/2018)

36. "Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference", Biostatistics Seminar, Kaiser Permanente Washington Health Research Institute, Seattle, WA (01/2018)

37. "Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference", Biostatistics Seminar, New York University Division of Biostatistics, New York, NY (12/2017)

38. "Partial Identification Bounds and Path-Specific Effects: Two (More) Options When Faced with Exposure-Induced Confounding", Joint Statistical Meetings, Baltimore, MD (07/2017)

39. "A Class of Semiparametric Tests of Treatment Effect Robust to Confounder Classical Measurement Error", Eastern North American Region of the International Biometric Society Spring Meeting, Washington, DC (03/2017)

40. "A Class of Semiparametric Tests of Treatment Effect Robust to Confounder Classical Measurement Error", Joint Statistical Meetings, Chicago, IL (08/2016)

41. "A Class of Semiparametric Tests of Treatment Effect Robust to Confounder Classical Measurement Error", Biostatistics Seminar, University of Washington Department of Biostatistics, Seattle, WA (04/2016)

42. "A Class of Semiparametric Tests of Treatment Effect Robust to Measurement Error of a Confounder", Biostatistics Seminar Series, University of California, Davis Graduate Group in Biostatistics, Davis, CA (02/2016)

43. "Quantifying an Adherence Path-Specific Effect of Antiretroviral Therapy in the Nigeria PEPFAR Program", Joint Statistical Meetings, Seattle, WA (08/2015)

44. "Partial Identification of the Pure Direct Effect Under Exposure-Induced Confounding", Eastern North American Region of the International Biometric Society Spring Meeting, Miami, FL (03/2015)

45. "Quantifying an Adherence Path-Specific Effect of Antiretroviral Therapy in the Nigeria PEPFAR Program", McGill University Biostatistics Seminar, Montreal, Canada (03/2015)

46. "Quantifying an Adherence Path-Specific Effect of Antiretroviral Therapy in the Nigeria PEPFAR Program", University of North Carolina Causal Inference Research Group, Chapel Hill, NC (02/2015)

47. "Quantifying an Adherence Path-Specific Effect of Antiretroviral Therapy in the Nigeria PEPFAR Program", Biostatistics Seminar Series, University of California, Berkeley Division of Biostatistics, Berkeley, CA (02/2015)

48. "Quantifying an Adherence Path-Specific Effect of Antiretroviral Therapy in the Nigeria PEPFAR Program", Johns Hopkins University Causal Inference Group, Baltimore, MD (01/2015)

49. "Identification of the Natural Indirect Effect Under Various Models", Joint Statistical Meetings, Boston, MA (08/2014)

50. "Background and Recent Developments in Causal Mediation Analysis", Joint Statistical Meetings, San Diego, CA (07/2012)

Conference Activity

Sessions & Workshops Organized

1. Program committee member, Conference on Statistical Learning and Data Science, New York, NY (11/2026)
2. Invited to organize: "Recent advances in causal inference", International Conference on Econometrics and Statistics, Tokyo, Japan (07/2025)
3. "Hot Ones: ACIC Edition", American Causal Inference Conference, Detroit, MI (05/2025)
4. Invited to co-organize: "9th Causal Inference Workshop at UAI", Uncertainty in Artificial Intelligence, Barcelona, Spain (07/2024)
5. Invited to organize: "Causal mediation analysis and principal stratification", International Conference on Econometrics and Statistics, Tokyo, Japan (07/2023)
6. Invited to organize: "External Validity and Data Fusion in Causal Inference", International Conference on Econometrics and Statistics, Kyoto, Japan (06/2022)
7. "Identifying and Addressing Sources of Bias in Causal Inference", Joint Statistical Meetings, Denver, CO (07/2019)

Contributed Talks

1. "Addressing an extreme positivity violation to distinguish the causal effects of surgery and anesthesia via separable effects", American Causal Inference Conference, Detroit, MI (05/2025)
2. "On the Causal Interpretation of Randomized Interventional Indirect Effects", European Causal Inference Meeting, Oslo, Norway (04/2023)
3. "On the Causal Interpretation of Randomized Interventional Indirect Effects", American Causal Inference Conference, Berkeley, CA (05/2022)
4. "Optimal tests of the composite null hypothesis arising in mediation analysis", European Causal Inference Meeting, Virtual (09/2021)
5. "When Randomized Interventional Indirect Effects Tell Stories About Mediated Effects (and When They Don't)", Joint Statistical Meetings, Virtual (08/2021)
6. "A More Powerful Test of the Composite Null Hypothesis Arising in Mediation Analysis", Joint Statistical Meetings, Virtual (08/2020)
7. "A Class of Semiparametric Tests of Treatment Effect Robust to Confounder Classical Measurement Error", International Biometric Conference, Victoria, Canada (07/2016)
8. "Semiparametric Estimation of Path-Specific Effects in the Presence of Unmeasured Confounding and Exposure-Induced Confounding", Joint Statistical Meetings, Montreal, Canada (08/2013)

Posters

1. "The central role of the mediator process in mediation analysis", 9th Causal Inference Workshop at UAI, Uncertainty in Artificial Intelligence, Barcelona, Spain (07/2024)

2. "Using a separable effects model to overcome extreme positivity violation and distinguish the causal effects of surgery and anesthesia", European Causal Inference Meeting, Copenhagen, Denmark (04/2024)

3. "Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference", IMS New Researchers Conference, Baltimore, MD (07/2017)

4. "Causal Inference for a Single Group of Causally-Connected Units Under Stratified Interference", Atlantic Causal Inference Conference, Chapel Hill, NC (05/2017)

5. "Semiparametric Estimation of Path-Specific Effects in the Presence of Unmeasured Confounding and Exposure-Induced Confounding", Atlantic Causal Inference Conference, Boston, MA (05/2013)

Campus Talks

1. "Leveraging multi-study, multi-outcome data to improve external validity and efficiency of clinical trials for medications for opioid use disorder ", CTSA Patient Oriented Research (POR) Colloquium, Columbia University Irving Medical Center, New York, NY (10/2025)

2. "Leveraging multi-study, multi-outcome data to improve external validity and efficiency of clinical trials for managing schizophrenia", Causal Inference Learning Group, Columbia University Mailman School of Public Health, New York, NY (01/2025)

3. "Causal inference in multi-study, multi-outcome settings", Department of Biostatistics & Eli Lilly and Company Collaboration, Columbia University Mailman School of Public Health, New York, NY (09/2024)

4. "Optimal tests of the composite null hypothesis arising in mediation analysis", Statistics Seminar Series, Columbia University Department of Statistics, New York, NY (09/2024)

5. "Causal inference in multi-study, multi-outcome settings", Translational AI Laboratory (TRAIL) Research Salon, Columbia University Mailman School of Public Health, New York, NY (08/2024)

6. "Leveraging multi-study, multi-outcome data to improve external validity and efficiency of clinical trials for medications for opioid use disorder", Substance Abuse Epidemiology Training Program Seminar Series, Columbia University Mailman School of Public Health, New York, NY (02/2024)

7. "The central role of the mediator process in mediation analysis", Functional Data Analysis Working Group, Columbia University Department of Biostatistics, New York, NY (05/2023)

8. Panelist on "An (Un)Holy Union: Causal Inference, Semiparametric Statistics and Machine Learning in the Age of Data Science" by E.J. Tchetgen Tchetgen, Centennial Distinguished Speakers Seminar, Columbia University, New York, NY (02/2022)

9. "Accounting for Measurement Error in a Study of the Total and Mediated Effects of Maternal Protein Intake and Lead Exposure on Birth Length", Levin Lecture Series, Columbia University, New York, NY (04/2020)

10. "Prediction/Machine Learning and Causality", Substance Abuse Epidemiology Training Program Seminar Series, Columbia University Mailman School of Public Health, New York, NY (02/2020)

11. "Causal Inference in Partially-Observed Networks", Mailman School of Public Health School Assembly, Columbia University, New York, NY (10/2018)

12. "On Partial Identification of the Pure Direct Effect", Biostatistics Seminar Series, University of California, Berkeley Division of Biostatistics, Berkeley, CA (09/2015)

13. "Quantifying an Adherence Path-Specific Effect of Antiretroviral Therapy in the Nigeria PEPFAR Program", Harvard University Department of Biostatistics HIV Working Group Seminar, Boston, MA (02/2015)