

# DAVID M. KLINE, PH.D.

Medical Center Boulevard ♦ Winston-Salem, North Carolina 27157-1063

Office: 336-716-3298 ♦ [dkline@wakehealth.edu](mailto:dkline@wakehealth.edu) ♦ <https://sites.google.com/view/dkline>

## EDUCATION

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### **The Ohio State University**

Ph.D. Biostatistics 2015

Advisors: Dr. Rebecca Andridge and Dr. Eloise Kaizar

M.S. Statistics 2012

### **Messiah College**

B.A. Mathematics 2010

Minors: Statistics, Business Administration

## POSITIONS

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**Assistant Professor** (tenure track) 2021-present

Department of Biostatistics and Data Science, Division of Public Health Sciences  
Wake Forest School of Medicine

**Assistant Professor** (tenure track) 2018-2021

Center for Biostatistics, Department of Biomedical Informatics, College of Medicine  
The Ohio State University

**Assistant Professor** (courtesy) 2019-2021

Division of Biostatistics, College of Public Health  
The Ohio State University

**Adjunct Assistant Professor** 2017-2019

Division of Biostatistics, College of Public Health  
The Ohio State University

**Research Scientist** 2015-2018

Center for Biostatistics, Department of Biomedical Informatics, College of Medicine  
The Ohio State University

## AWARDS

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Excellence in Teaching Award, The Ohio State University Department of Biomedical Informatics 2020

The CSP 2015 Best Student Poster Award Runner-Up, American Statistical Association 2015

Lester R. Curtin Award, American Statistical Association 2014

University Fellowship, The Ohio State University 2010-2011

Lubrizol Fellowship, The Ohio State University 2010

The Honor Society of Phi Kappa Phi, The Ohio State University 2010

Mathematics Department Honors, Messiah College 2010

Who's Who Among Students in American Universities and Colleges 2010

Sigma Zeta National Science and Mathematics Honor Society, Messiah College 2008-2010

Honors Program, Messiah College 2006-2010

\* indicates trainee, † indicates co-first author, ‡ indicates corresponding author

- [1] E.F. Coccaro, T. Drossos, **D. Kline**, S. Lazarus, J.J. Joseph, and M. de Groot. Diabetes distress, emotional regulation, hba1c in people with diabetes and a controlled pilot study of an emotion-focused behavioral therapy intervention in adults with type 2 diabetes. *Primary Care Diabetes*, 2022. In press.
- [2] S.A. Hepler, K.A. Kaufeld, K. Benedict, M. Toda, B.R. Jackson, X. Liu, and **D. Kline**. Integrating public health surveillance and environmental data to model presence of *Histoplasma* in the United States. *Epidemiology*, 2022. In press.
- [3] J. Hu, **D. Kline**, A. Tan, S. Zhao, G. Brock, L.C. Mion, J.T. Efrid, D. Wang, M. Sims, B. Wu, M. Mongraw-Chaffin, and J.J. Joseph. Association between social determinants of health and glycemic control among African American people with type 2 diabetes: The Jackson Heart Study. *Annals of Behavioral Medicine*, 2022. In press.
- [4] N. Jamieson\*, M. Akande, T. Karsies, R.M. Smith, **D. Kline**, and S.P. Spencer. Respiratory pathogen detection in pediatric patients intubated for presumed infection. *Pediatric Emergency Care*, 38(1):e398–e403, 2022.
- [5] T.N. Townsend, L.K. Hamilton, A. Rivera-Aguirre, C.S. Davis, J.R. Pamplin II, **D. Kline**, K.E. Rudolph, and M. Cerdá. Using an inverted synthetic control method to estimate effects of recent overdose Good Samaritan Laws, overall and by black/white race. *American Journal of Epidemiology*, 2022. In press.
- [6] A. Norris Turner, **D. Kline**, A. Norris, W.G. Phillips, E. Root, J. Wakefield, Z. Li, S. Lemeshow, M. Spahnle, A. Luff, Y. Chu, M.K. Francis, M. Gallo, P. Chakraborty\*, M. Lindstrom, G. Lozanski, W. Miller, and S. Clark. Prevalence of current and past COVID-19 in Ohio adults. *Annals of Epidemiology*, 67:50–60, 2022.
- [7] W.D. Arnold, S. Severyn, S. Zhao, **D. Kline**, M. Linsenmayer, K. Kelly, M. Tellez, A. Bartlett, S. Heintzman, J. Reynolds, G. Sterling, T. Weaver, K. Rajneesh, A.H.M. Burghes, S.J. Kolb, and B. Elsheikh. Persistent neuromuscular junction transmission defects in adults with spinal muscular atrophy treated with nusinersen. *BMJ Neurology Open*, 3(2):e000164, 2021.
- [8] D.L. Brook\*, A.T. Hetrick\*, S.R. Chettri, C.A. Schalkoff, A.L. Sibley, K.E. Lancaster, V.F. Go, W.C. Miller, and **D. Kline**. The relationship between Hepatitis C virus rates and office-based buprenorphine access in Ohio. *Open Forum Infectious Diseases*, 8(6):ofab242, 2021.
- [9] M.M. Donneyong, M.A. Fischer, M.A. Langston, J.J. Joseph, P.D. Juarez, P. Zhang, and **D. Kline**. Examining the drivers of racial/ethnic disparities in non-adherence to antihypertensive medications and mortality due to heart disease and stroke: a county-level analysis. *International Journal of Environmental Research and Public Health*, 18:12702, 2021.
- [10] B. Elsheikh, S.J. Kolb, S. Zhao, **D. Kline**, M. Linsenmayer, K. Kelly, M. Tellez, A. Bartlett, S. Heintzman, J. Reynolds, G. Sterling, T. Weaver, K. Rajneesh, S. Severyn, and W.D. Arnold. Safety, tolerability, and effect of nusinersen treatment in ambulatory adults with 5q-SMA. *Frontiers in Neurology*, 12:816, 2021.
- [11] B. Elsheikh, S. Severyn, S. Zhao, **D. Kline**, M. Linsenmayer, K. Kelly, M. Tellez, A. Bartlett, S. Heintzman, J. Reynolds, G. Sterling, T. Weaver, K. Rajneesh, S.J. Kolb, and W.D. Arnold. Safety, tolerability, and effect of nusinersen in non-ambulatory adults with spinal muscular atrophy. *Frontiers in Neurology*, 12:542, 2021.
- [12] G.S. Gonsalves, J.T. Copple, A.D. Paltiel, E.P. Fenichel, J. Bayham, M. Abraham, **D. Kline**, S. Malloy, M. Rayo, N. Zhang, D. Faulkner\*, D. Morey, F. Wu, T. Thornhill, S. Iloglu, and J.L. Warren.

Maximizing the efficiency of active case-finding for SARS-CoV-2 using bandit algorithms. *Medical Decision Making*, 41(8):970–977, 2021.

- [13] S. Hepler, L. Waller, and **D. Kline**. A multivariate spatio-temporal change point model of opioid overdose deaths in Ohio. *Annals of Applied Statistics*, 15(3):1329–1342, 2021.
- [14] E. Hill\*, J. Watson, D.M. Cohen, **D. Kline**, A.L. Schwaderer, and J. Spencer. Novel urine biomarkers to distinguish UTI from culture-negative pyuria. *Pediatric Nephrology*, 2021. In press.
- [15] J.J. Joseph, B. Kluwe, J.B. Echouffo-Tcheugui, S. Zhao, G. Brock, **D. Kline**, J.B. Odei, R.R. Kalyani, D.P. Bradley, W.A. Hsueh, M. Sims, and S.H. Golden. Association of adiposity with incident diabetes among black adults in the Jackson Heart Study. *Journal of the American Heart Association*, 10(18):e020716, 2021.
- [16] J.J. Joseph, N.K. Pohlman, S. Zhao, **D. Kline**, G. Brock, J.B. Echouffo-Tcheugui, M. Sims, V.S. Effoe, W. Wu, R.R. Kalyani, G.S. Wand, W.A. Hsueh, M. Abdalla, D. Shimbo, and S.H. Golden. The association of serum aldosterone and plasma renin activity with ambulatory blood pressure: The Jackson Heart Study. *Circulation*, 143(24):2355–2366, 2021.
- [17] **D. Kline** and S. Hepler. Estimating the burden of the opioid epidemic for adults and adolescents in Ohio counties. *Biometrics*, 77(2):765–775, 2021.
- [18] **D. Kline**, A. Hyder, E. Liu, M. Rayo, S. Malloy, and E. Root. A Bayesian spatio-temporal nowcasting model for public health decision-making and surveillance. *American Journal of Epidemiology*, 2021. In press.
- [19] **D. Kline**, Y. Ji, and S. Hepler. A multivariate spatio-temporal model of the opioid epidemic in Ohio: A factor model approach. *Health Services and Outcomes Research Methodology*, 21:42–53, 2021.
- [20] **D. Kline**, Z. Li, Y. Chu, J. Wakefield, W.C. Miller, A. Norris Turner, and S.J. Clark. Estimating seroprevalence of SARS-CoV-2 in Ohio: A Bayesian multilevel poststratification approach with multiple diagnostic tests. *Proceedings of the National Academy of Sciences*, 118(26):e2023947118, 2021.
- [21] **D. Kline**, Y. Pan\*, and S. Hepler. Spatio-temporal trends in opioid overdose deaths by race for counties in Ohio. *Epidemiology*, 32(2):295–302, 2021.
- [22] B. Kluwe, R. Ortiz, J.B. Odei, S. Zhao, **D. Kline**, G. Brock, J.B. Echouffo-Tcheugui, J. Lee, S. Lazarus, T. Seeman, P. Greenland, B. Needham, M.R. Carnethon, S.H. Golden, and J. Joseph. The association of cortisol curve features with incident diabetes among Whites and African Americans: The coronary artery risk development in young adults (CARDIA) study. *Psychoneuroendocrinology*, 123:105041, 2021.
- [23] B. Kluwe, S. Zhao, **D. Kline**, R. Ortiz, G. Brock, J.B. Echouffo-Tcheugui, M. Sims, R.R. Kalyani, S.H. Golden, and J.J. Joseph. Adiposity measures and morning serum cortisol in African Americans: Jackson Heart Study. *Obesity*, 29(2):418–427, 2021.
- [24] S.W. Linakis\*, J.K. Lloyd, **D. Kline**, J.F. Holmes, R.M. Stanley, and J.C. Leonard. Field triage of children with abdominal trauma. *Trauma*, 23(1):55–63, 2021.
- [25] M. Sotos Prieto, S. Zhao, **D. Kline**, G. Brock, H. Gooding, J. Mattei, F. Rodriguez-Artalejo, Y.I. Min, E. Rimm, K.L. Tucker, and J.J. Joseph. Application of a lifestyle-based score to predict cardiovascular risk in African Americans: The Jackson Heart Study. *Journal of Clinical Medicine*, 10(11):2252, 2021.
- [26] T. Townsend†, **D. Kline**†, A. Rivera-Aguirre, A.M. Bunting, P.M. Mauro, B.D.L. Marshall, S.S. Martins, and M. Cerdá. Racial/ethnic and geographic trends in combined stimulant/opioid overdoses, 2007-2019. *American Journal of Epidemiology*, 2021. In press.
- [27] K.A. Battisti\*, D.M. Cohen, T. Bourgeois, **D. Kline**, S. Zhao, and M.S. Iyer. A paucity of code

status documentation despite increasing complex chronic disease in pediatrics. *Journal of Palliative Medicine*, 23(11):1452–1459, 2020.

- [28] R. Karamians, R. Proffitt, **D. Kline**, and L.V. Gauthier. Effectiveness of virtual reality- and gaming-based interventions for upper extremity rehabilitation poststroke: A meta-analysis. *Archives of Physical Medicine and Rehabilitation*, 101(5):885 – 896, 2020.
- [29] A.P. Meyer, J. Roggenbuck, S. Lorusso, J. Kissel, R.M. Smith, **D. Kline**, and W.D. Arnold. Genotype-phenotype correlations and characterization of medication use in inherited myotonic disorders. *Frontiers in Neurology*, 11:593, 2020.
- [30] A. Moberly, K. Vasil, J. Baxter, B. Klammer, **D. Kline**, and C. Ray. Comprehensive auditory rehabilitation in adults receiving cochlear implants: a pilot study. *Laryngoscope Investigative Otolaryngology*, 5:911–918, 2020.
- [31] J. Pena Dias, J.J. Joseph, B. Kluwe, S. Zhao, M. Shardell, T. Seeman, B.L. Needham, G.S. Wand, **D. Kline**, G. Brock, C. Castro-Diehl, and S.H. Golden. The longitudinal association of changes in diurnal cortisol features with fasting glucose: MESA. *Psychoneuroendocrinology*, 119:104698, 2020.
- [32] L. Schoenfeld, S. Janse, **D. Kline**, M. Aronow, A.D. Singh, C. Craven, M. Abdel-Rahman, and C. Cebulla. Estrogen receptor is expressed in uveal melanoma: A potential target for therapy. *Ocular Oncology and Pathology*, 7(4):303–310, 2020.
- [33] C. Bressler\*, M. Letson, **D. Kline**, T. McCarthy, J. Davis, and J. Leonard. Characteristics of neighborhoods where emergency medical services encounter children at risk for maltreatment. *Prehospital Emergency Care*, 23(5):672–682, 2019.
- [34] J. Caterino, **D. Kline**, R. Leininger, L. Southerland, C. Carpenter, C. Baugh, D. Pallin, K. Hunold, and K. Stevenson. Nonspecific symptoms lack diagnostic accuracy for infection in older emergency department patients. *Journal of the American Geriatrics Society*, 67:484–492, 2019.
- [35] J. Echouffo-Tcheugui, S. Zhao, G. Brock, **D. Kline**, and J. Joseph. Visit-to-visit glycemic variability and risks of cardiovascular events and all-cause mortality: The ALLHAT study. *Diabetes Care*, 42(3):468–493, 2019.
- [36] S. Gillespie, C.M. Anderson, S. Zhao, Y. Tan, **D. Kline**, G. Brock, J. Odei, E. O’Brien, M. Sims, S. Lazarus, D. Hood, K.P. Williams, and J.J. Joseph. Allostatic load in the association of depressive symptoms with incident coronary heart disease: The Jackson Heart Study. *Psychoneuroendocrinology*, 109:104369, 2019.
- [37] K. Grisanti, L. Martorano, M. Redmond, R. Scherzer, K. Strothman, L. Malthaner, J. Davis, S. Zhao, **D. Kline**, and J. Leonard. Emergency call characteristics and EMS dispatcher protocol adherence for possible anaphylaxis. *Prehospital Emergency Care*, 23(5):691–699, 2019.
- [38] S. Hepler, A. Bonny, E. McKnight, and **D. Kline**. Latent spatial factor approach for synthesizing opioid associated deaths and treatment admissions in Ohio counties. *Epidemiology*, 30(3):365–370, 2019.
- [39] V. Kesireddy, Y. Tan, B. Kluwe, **D. Kline**, G. Brock, J. Odei, V.S. Effoe, J.B. Echouffo Tchedugui, R.R. Kalyani, M. Sims, H.A. Taylor, M. Mongraw-Chaffin, E. Akhabue, and J.J. Joseph. The association of life’s simple 7 with aldosterone among African Americans in the Jackson Heart Study. *Nutrients*, 11(5):955, 2019.
- [40] **D. Kline**, S. Hepler, A. Bonny, and E. McKnight. A joint spatial model of opioid associated deaths and treatment admissions in Ohio. *Annals of Epidemiology*, 33:19–23, 2019.
- [41] A.D. Kloos, D.A. Kegelmeyer, K. Ambrogi, **D. Kline**, M. McCormack-Mager, B. Schroeder, and S.K. Kostyk. The step test evaluation of performance on stairs (STEPS): Validation and reliability in a neurological disorder. *PLOS ONE*, 14(3):1–12, 2019.

- [42] S. La Count, S. Zhao, **D. Kline**, M.E. Lovett, N.F. O'Brien, M.W. Hall, and E.A. Sribnick. Factors associated with poor outcome in pediatric near-hanging injuries. *The Journal of Emergency Medicine*, 57(1):21–28, 2019.
- [43] A. Liu\*, **D.M. Kline**<sup>‡</sup>, G.N. Brock<sup>‡</sup>, and B.K. Bonsu. Multistate model of the patient flow process in the pediatric emergency department. *PLOS ONE*, 14(7):1–16, 2019.
- [44] S. Lorusso, **D. Kline**, A. Bartlett, M. Freimer, J. Agriesti, A.A. Hawash, M.M. Rich, J.T. Kissel, and W.D. Arnold. Open-label trial of ranolazine for the treatment of paramyotonia congenita. *Muscle & Nerve*, 59(2):240–243, 2019.
- [45] K. Saba, Z.S. Hossieny, W.D. Arnold, B. Elsheikh, M. Pallettas, **D. Kline**, and A.M. Stino. CSF protein level and short-term prognosis in Guillain Barre Syndrome. *Journal of Clinical Neuromuscular Disease*, 21(2):118–119, 2019.
- [46] A.M. Stino, S. Atway, M. Anthony, **D. Kline**, and J.T. Kissel. Foot measures in patients with pes cavus with and without Charcot-Marie-Tooth disease: A pilot study. *Muscle & Nerve*, 59(1):122–125, 2019.
- [47] L. Suarez-Kelly, L. Yu, **D. Kline**, E.B. Schneider, D.M. Agnese, and W.E. Carson. Increased breast cancer risk in women with neurofibromatosis type 1: A meta-analysis and systematic review of the literature. *Hereditary Cancer in Clinical Practice*, 17(12):1–13, 2019.
- [48] H. Wang, S. Hecht, **D. Kline**, and A.L. Leber. Staphylococcus aureus and methicillin resistance detection directly from pediatric samples using PCR assays with differential cycle threshold values for corroboration of methicillin resistance. *Journal of Microbiological Methods*, 159:167–173, 2019.
- [49] C.G. Wier, A.E. Crum, A.B. Reynolds, C.C. Iyer, D. Chugh, M.S. Palettas, P.L. Heilman, **D.M. Kline**, W.D. Arnold, and S.J. Kolb. Muscle contractility dysfunction precedes loss of motor unit connectivity in SOD1(G93A) mice. *Muscle & Nerve*, 59(2):254–262, 2019.
- [50] K. Yackey, K. Stukus, D. Cohen, **D. Kline**, S. Zhao, and R. Stanley. Off-label medication prescribing patterns in pediatrics: An update. *Hospital Pediatrics*, 9(3):186–193, 2019.
- [51] N.A. Young, M.P. Brown, J. Peng, **D. Kline**, C. Reider, and M. Deogaonkar. Predicting extended hospital stay after deep brain stimulation surgery in Parkinson’s patients. *Journal of Clinical Neuroscience*, 69:241–244, 2019.
- [52] K.M. Kelly, A.L. Borstad, **D. Kline**, and L. Gauthier. Improved quality of life following constraint-induced movement therapy is associated with gains in arm use, but not motor improvement. *Topics in Stroke Rehabilitation*, 25(1):467–474, 2018.
- [53] B. Mundy-Bosse, N. Denlinger, E. McLaughlin, N. Chakravarti, S. Hwang, L. Chen, H.C. Mao, **D. Kline**, Y. Youssef, R. Kohnken, D.A. Lee, G. Lozanski, A.G. Freud, P. Porcu, B. William, M.A. Caligiuri, and A. Mishra. Highly cytotoxic natural killer cells are associated with poor prognosis in patients with cutaneous T-cell lymphoma. *Blood Advances*, 2(15):1818–1827, 2018.
- [54] D.E. Prior, E. Nurre, S.L. Roller, **D. Kline**, R. Panara, A.M. Stino, J.A. Davis, M.L. Freimer, and W.D. Arnold. Infections and the relationship to treatment in neuromuscular autoimmunity. *Muscle & Nerve*, 57(6):927–931, 2018.
- [55] J.L. Vaughn, **D. Kline**, N.M. Denlinger, L.A. Andritsos, M.C. Exline, and A.R. Walker. Predictive performance of early warning scores in acute leukemia patients receiving induction chemotherapy. *Leukemia & Lymphoma*, 59(6):1498–1500, 2018.
- [56] W.D. Arnold, **D. Kline**, A. Sanderson, A.A. Hawash, A. Bartlett, K.R. Novak, M.M. Rich, and J.T. Kissel. Open-label trial of ranolazine for the treatment of myotonia congenita. *Neurology*, 89(7):710–713, 2017.

- [57] J.M. Caterino, R. Leininger, **D.M. Kline**, L.T. Southerland, S. Khaliqdina, C.W. Baugh, D.J. Pallin, and K.B. Stevenson. Accuracy of current diagnostic criteria for acute bacterial infection in older adults in the emergency department. *Journal of the American Geriatrics Society*, 65(8):1802–1809, 2017.
- [58] **D. Kline**, R. Andridge, and E. Kaizar. Comparing multiple imputation methods for systematically missing subject-level data. *Research Synthesis Methods*, 8(2):136–148, 2017.
- [59] N. Makki, **D. Kline**, A. Kanmanthareddy, H. Mathelier, S. Shreenivas, and S. M. Lilly. Procedure utilization, latency and mortality: Weekend versus weekday admission for myocardial infarction. *Journal of Cardiology and Cardiovascular Medicine*, 2(1):020–025, 2017.
- [60] E.R. McKnight, A.E. Bonny, H.L. Lange, **D.M. Kline**, M. Abdel-Rasoul, J.R. Gay, and S.C. Matson. Statewide opioid prescriptions and the prevalence of adolescent opioid misuse in Ohio. *The American Journal of Drug and Alcohol Abuse*, 43(3):299–305, 2017.
- [61] H. Wang, A. L. Schwaderer, J. Kline, J. D. Spencer, **D. Kline**, and D. S. Hains. Contribution of structural domains to the activity of ribonuclease 7 against uropathogenic bacteria. *Antimicrobial Agents and Chemotherapy*, 57(2):766–774, 2013.
- [62] A. Carpenter, A. Paulus, M. Robinson, C. M. Bates, M. L. Robinson, D. Hains, **D. Kline**, and K. M. McHugh. 3-dimensional morphometric analysis of murine bladder development and dysmorphogenesis. *Developmental Dynamics*, 241(3):522–33, 2012.
- [63] S.M. Seibert, T.S. King, **D. Kline**, C. Mende, and T. Craig. Reliability of skin test results when read at different time points. *Allergy and Asthma Proceedings*, 32(3):203–205, 2011.

## OTHER PUBLICATIONS

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**D. Kline**, E. Kaizar, N. Minich, T. Stancin, H.G. Taylor, S. Wade, and K. Yeates. Meta-analysis for studying psychological and social effects of pediatric traumatic brain injury: existing studies and methods. <https://doi.org/10.13140/RG.2.2.26712.60165>, 2017.

J. Rumberger, C. Hollenbeak, and **D. Kline**. Potential costs and benefits of smoking cessation. *American Lung Association*. <https://www.lung.org/getmedia/aebd97aa-dc3b-4f62-8791-d6c891603d63/economic-benefits.pdf.pdf?ext=.pdf>, 2010.

## RESEARCH SUPPORT

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### Ongoing Support

#### Principal Investigator

- NIH R01 (PI: **D. Kline** and S. Hepler) 2021-2025  
Spatio-temporal methods for surveillance of the opioid syndemic  
Role: MPI (30% effort)

#### Co-Investigator/Biostatistician

- NIH R01 (PI: S. Rhodes and A. Tanner) 2021-2025  
Harnessing the Power of Peer Navigation and mHealth to Reduce Health Disparities in Appalachia  
Role: Co-I (10% effort)
- Lab Directed Research and Development (LANL) (PI: K. Kaufeld) 2021-2024  
Assessing environmental and health impacts of airborne particulates  
Role: Co-I (5% effort)
- AHRQ R01 (PI: C. Hebert and E. Root) 2020-2024  
GeoHAI: A novel geographic tool for Hospital Acquired Infection visualization and assessment  
Role: Co-I (20% effort)

#### Mentor

- NIH F30 (PI: D. Brook) 2020-2024  
Buprenorphine, Hepatitis C Virus and Their Relationship in Rural US Populations  
Role: Mentor (0% effort)
  
- Completed Support (last 5 years)**
- Principal Investigator*
- NIH R21 (PI: **D. Kline** and S. Hepler) 2018-2021  
A Bayesian Spatio-Temporal Approach for Estimating County-Level Opioid Misuse Rates in Ohio  
Role: MPI (21% effort)
- Co-Investigator/Biostatistician*
- NIH R01 (PI: E. Coccaro) 2020-2021  
Aggression and SEIP: Neural Correlates During Alcohol Intoxication  
Role: Co-I and Lead Biostatistician (5% effort)
- ODH Contract (PI: E. Seiber) 2020-2021  
COVID Monitoring Team, Economic Analysis, and Ohio COVID-19 Assessment of Prevalence (OCAP)  
Role: Co-I (25% effort)
- Michael J. Fox Foundation for Parkinson's Research (PI: A. Kloos) 2019-2021  
Use of a computerized walking device in the home to improve home and community mobility in people with Parkinson disease  
Role: Co-I and Lead Biostatistician (3% effort)
- NIH R01 (PI: S. He) 2019-2021  
Neural encoding and auditory processing of electrical stimulation in pediatric cochlear implant users  
Role: Co-I and Lead Biostatistician (5% effort)
- NIH UM1 (PI: R. Jackson) 2019-2020  
Optimizing HEALing in Ohio Communities  
Role: Co-I (10% effort)
- Biogen (PI: B. Elsheikh) 2018-2020  
Characterizing longitudinal outcomes in adults with SMA treated with Nusinersen  
Role: Biostatistician (5% effort)
- Cure SMA/Families of SMA (PI: B. Elsheikh) 2018-2020  
Determine the motor unit response following SMN restoration in late onset spinal muscular atrophy  
Role: Biostatistician (5% effort)
- NIH R01 (PI: C. Sen) 2017-2018  
Wound healing endpoint and recurrence  
Role: Biostatistician (10% effort)
- NIH CTSA (PI: R. Jackson) 2016-2018  
Center for Clinical and Translational Science  
Role: Core Biostatistician (10% effort)
- NIH R01 (PI: S. Page) 2016  
Mental practice in chronic, stroke-induced hemiparesis  
Role: Biostatistician (10% effort)
- NIH K23 (PI: J. Caterino) 2015-2016  
Expanding antimicrobial stewardship for long term care facility patients: implementation in novel clinical setting using information technology  
Role: Biostatistician (24% effort)

## PRESENTATIONS

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<sup>†</sup> indicates co-presenter

### Invited Presentations

- G. Gonsalves<sup>†</sup>, **D. Kline**<sup>†</sup>, and M. Rayo<sup>†</sup>. An Adaptive Approach to Surveillance of SARS-CoV-2. Wake County Department of Health and Human Services, January 2022.
- **D. Kline**. Operating under uncertainty: Disease surveillance of COVID-19. Fall Virtual Speaker Event, American Statistical Association Columbus Chapter, November 2021.
- G. Gonsalves<sup>†</sup>, **D. Kline**<sup>†</sup>, S. Malloy<sup>†</sup>, and M. Rayo<sup>†</sup>. An Adaptive Approach to Surveillance of SARS-CoV-2. SCRUM: Strategy and Technical Discussion, Resolve to Save Lives, September 2021.
- **D. Kline**. A Bayesian Spatio-Temporal Abundance Model for Surveillance of the Opioid Epidemic. Department of Biostatistics and Data Science Seminar, Wake Forest School of Medicine, September 2021.
- **D. Kline**. Uncertainty and the Response to COVID-19. Statistics Colloquia, Amherst College, April 2021.
- **D. Kline**. Estimating Seroprevalence of SARS-CoV-2 in Ohio: A Bayesian Approach with Multiple Diagnostic Tests. Department of Biostatistics Seminar, Wake Forest School of Medicine, February 2021.
- A. Norris Turner<sup>†</sup> and **D. Kline**<sup>†</sup>. Estimating the prevalence of past and current COVID-19 in Ohio. Institute for Population Research Seminar Series, The Ohio State University, February 2021.
- **D. Kline**. Uncertainty and the Response to COVID-19. 8th Annual Scientific Meeting, The Ohio State University Center for Clinical and Translational Science, January 2021.
- **D. Kline**. A Bayesian Spatio-Temporal Abundance Model for Surveillance of the Opioid Epidemic. Department of Biostatistics Seminar, Boston University, January 2021.
- **D. Kline**. Uncertainty and the Response to COVID-19. Department of Biomedical Informatics Seminar, The Ohio State University. October 2020.
- **D. Kline**, Y. Ji, and S. Hepler. A multivariate spatio-temporal model of the opioid epidemic in Ohio: A factor model approach. International Conference on Health Policy Statistics, January 2020.
- **D. Kline**. Using spatial statistics to assess the opioid epidemic in Ohio. Department of Mathematics and Statistics Colloquia, Wake Forest University, November 2019.
- **D. Kline**. Spatio-temporal analysis of histoplasmosis surveillance data to inform understanding of geographic risk. Byrd Polar and Climate Research Center Seminar, The Ohio State University, October 2019.
- **D. Kline** and S. Hepler. A spatial factor model approach for assessing the opioid epidemic in Ohio. New England Statistics Symposium, May 2019.
- **D. Kline**. A spatial factor model approach for assessing the opioid epidemic in Ohio. Division of Biostatistics Seminar, The Ohio State University, March 2019.
- **D. Kline**. A Joint Model of Opioid Treatment Admissions and Deaths for Adults and Adolescents in Ohio Counties. Department of Biomedical Informatics Seminar, The Ohio State University. August 2018.
- **D. Kline**. A joint spatial model of opioid associated deaths and treatment admissions in Ohio. Division of Epidemiology Research Day, The Ohio State University, May 2018.
- **D. Kline**. A joint spatial model of opioid associated deaths and treatment admissions in Ohio. Department of Mathematics, Physics, and Statistics Seminar, Messiah College, April 2018.
- **D. Kline**. A joint spatial model of opioid associated deaths and treatment admissions in Ohio. Division of Adolescent Medicine Seminar, Nationwide Children's Hospital, September 2017.

### Panel Discussions



- J. Hartzel<sup>†</sup>, **D. Kline**<sup>†</sup>, A. Klopp<sup>†</sup>, and E. Wichert<sup>†</sup>. Careers in Mathematics: Alumni Panel. Panelist at Messiah University Department of Computing, Mathematics, and Physics, February 2022.
- S. Malloy<sup>†</sup>, A. Hyder<sup>†</sup>, **D. Kline**<sup>†</sup>, M. Rayo<sup>†</sup>, and E. Root<sup>†</sup>. Briefing: Monitoring COVID-19 in Ohio & at Ohio State. Panelist at The Ohio State University Infectious Diseases Institute Virtual COVID-19 Symposium, December 2020.
- E. Griffith<sup>†</sup>, **D. Kline**<sup>†</sup>, and J. Sharp<sup>†</sup>. Consulting in the Statistical Sciences: A Department of Biostatistics Mini-Symposium. Panelist at Harvard School of Public Health, March 2018.
- S. Kalicin<sup>†</sup>, A. Kaur<sup>†</sup>, **D. Kline**<sup>†</sup>, D. Morganstein<sup>†</sup>, and L. Stork<sup>†</sup>. How Can Mentoring Help with the Practice of Statistics: A Panel Discussion. Panelist at the Conference on Statistical Practice, February 2015.

### Contributed Presentations

- **D. Kline**, S. Hepler, N. Krawczyk, M. Cerda, L. Waller. A multivariate multiple change point model to describe opioid overdose deaths across the United States. Contributed Paper at the ENAR Spring Meeting, March 2022.
- **D. Kline**, Z. Li, Y. Chu, J. Wakefield, W.C. Miller, A. Norris Turner, and S. Clark. Estimating Seroprevalence of SARS-CoV-2 in Ohio: A Bayesian Approach with Multiple Diagnostic Tests. Contributed Paper at the ENAR Spring Meeting, March 2021.
- **D. Kline**, L. Waller, and S. Hepler. A Bayesian spatio-temporal abundance model for surveillance of the opioid epidemic. Contributed Paper at the Joint Statistical Meetings, August 2020.
- **D. Kline**, L. Waller, and S. Hepler. A Bayesian spatio-temporal abundance model for surveillance of the opioid epidemic. Contributed Paper at the ENAR Spring Meeting, March 2020.
- **D. Kline**, Y. Ji, and S. Hepler. A multivariate spatio-temporal model of the opioid epidemic in Ohio: A factor model approach. Contributed Speed Presentation at the Joint Statistical Meetings, July 2019.
- **D. Kline** and S. Hepler. A joint model of opioid treatment admissions and deaths for adults and adolescents in Ohio counties. Contributed Paper at the ENAR Spring Meeting, March 2019.
- **D. Kline** and S. Hepler. A joint model of opioid treatment admissions and deaths for adults and adolescents in Ohio counties. Contributed Speed Presentation at the Joint Statistical Meetings, July 2018.
- **D. Kline**, S. Hepler, A. Bonny, and E. McKnight. A spatial factor model approach for assessing the opioid epidemic in Ohio. Poster at ENAR Spring Meeting, March 2018.
- **D. Kline** and S. Hepler. Opioid treatment admissions and deaths for adults and adolescents in Ohio counties. Poster at International Conference on Health Policy Statistics, January 2018.
- **D. Kline**, S. Hepler, E. McKnight, and A. Bonny. A Spatio-Temporal Joint Model of Opioid Overdose Deaths and Treatment Seeking in Ohio Counties. Contributed Speed Presentation at the Joint Statistical Meetings, August 2017.
- **D. Kline** and J. Caterino. A Case Study in Evaluating Diagnostic Tests Without a Gold Standard: From Kappa to Bayesian Latent Class Modeling. Poster at ENAR Spring Meeting, March 2017.
- **D. Kline**, R. Andridge, and E. Kaizar. Two-Level Joint Model for Imputing Subject-Level Variables of Mixed Type. Contributed Speed Presentation at the Joint Statistical Meetings, August 2016.
- **D. Kline**, R. Andridge, and E. Kaizar. Comparing Multiple Imputation Methods for Systematically Missing Subject-Level Data. Contributed Paper at ENAR Spring Meeting, March 2015.
- **D. Kline**, R. Andridge, and E. Kaizar. Multiple Imputation for Missing Data in Longitudinal Research Synthesis: Identifying and Overcoming Assumptions in Software. Poster at the Conference on Statistical Practice, February 2015.

- **D. Kline**, R. Andridge, and E. Kaizar. Comparing Multiple Imputation Methods for Correlated Data. Poster at the Statistics & Biostatistics Graduate Student Poster Session at The Ohio State University, September 2014.
- **D. Kline**, R. Andridge, and E. Kaizar. Comparing Multiple Imputation Methods for Correlated Data. Contributed Paper at the Joint Statistical Meetings, August 2014.
- **D. Kline**, R. Andridge, and E. Kaizar. Comparing Multiple Imputation Methods for Correlated Data. Poster at The Ohio State-Cleveland Clinic-Case Western Reserve Biostatistics Symposium, April 2014.

## COLLABORATION

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### National Collaborative Working Groups

- Invited participant, Challenges in Mathematical and Computational Modeling of Complex Systems, Banff International Research Station for Mathematical Innovation and Discovery, December 2019.  
*Purpose: The purpose of this conference was to share scientific information with other researchers and scientists and to promote international communication in the field of mathematics.*
- Fellow, Data Science Innovation Lab Challenges in Rural Health and Environmental Exposures, NIH BD2K Training Coordinating Center, June 2019.  
*Purpose: The BD2K Training Coordinating Center organized a Data Science Innovation Lab to foster the development of new interdisciplinary teams via a facilitated and mentored format to tackle the challenges associated with the analysis, modeling, and visualization of large-scale data sets associated with the biomedicine of rural health.*

### Collaborative Relationships

#### Wake Forest School of Medicine

- Full Member, Center for Addiction Research 2021-present
- Full Member, Maya Angelou Center for Health Equity 2021-present

#### The Ohio State University

- Neuroscience Research Institute, The Ohio State University 2015-2021
- Comprehensive Cancer Center, The Ohio State University 2015-2021
- Division of Emergency Medicine, Nationwide Children's Hospital 2015-2020
- Ross Center for Brain Health and Performance, The Ohio State University 2017-2019
- Division of Neurosurgery, Nationwide Children's Hospital 2016-2018
- Center for Clinical and Translational Science, The Ohio State University 2016-2018

## TEACHING EXPERIENCE

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### Courses Taught

#### The Ohio State University

- Rigorous and Reproducible Design and Data Analysis (BMI 8150):  
Spring 2020
- Elementary Statistics (STAT 135):  
Spring 2012, Fall 2012

### Guest Lectures

#### Wake Forest University

- Bayesian Analysis (STA 720):  
10/20/2021

#### The Ohio State University

- Biostatistical Collaboration (PUBHBIO 7245):  
4/10/2017, 3/19/2018, 2/26/2019, 2/18/2020, 2/16/2021
- Introduction to Biomedical Informatics (BMI 5710):  
11/16/2020

### **Journal Clubs Led**

#### *The Ohio State University*

- Population Health Informatics and Biostatistics Journal Club:  
<https://u.osu.edu/phib/journal-club/>  
Fall 2019, Spring 2020, Fall 2020, Spring 2021

#### *Nationwide Children's Hospital*

- Pediatric Emergency Medicine Fellows' Journal Conference:  
2016-2017, 2017-2018

### **Teaching Assistant**

#### *The Ohio State University*

- Group Studies in Biostatistics (PUBHBIO 7194):  
May 2014
- Applied Longitudinal Analysis (PUBHBIO 7230):  
Spring 2014
- Design and Analysis of Studies in the Health Sciences II (PUBHBIO 6211):  
Spring 2013
- Applied Logistic Regression (PUBHBIO 7220):  
Fall 2013
- Elementary Statistics (STAT 1350):  
Fall 2011, Winter 2012, Fall 2012

#### *Messiah College*

- Calculus I (MATH 111):  
Fall 2009
- Calculus II (MATH 112):  
Spring 2010

## **ACADEMIC SERVICE**

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### **Committees**

#### *College*

- Member, Faculty Representative Council Communications Subcommittee, Wake Forest School of Medicine, 2022-present
- Member, Clinical Scientific Review Committee, The Ohio State University Comprehensive Cancer Center, 2016-2021

#### *Department*

- Member, Twitter Committee, Wake Forest School of Medicine Department of Biostatistics and Data Science, 2021-present
- Member, Faculty Recruitment Committee, Wake Forest School of Medicine Department of Biostatistics and Data Science, 2021-2022
- Member, BMI Leadership Council, The Ohio State University Department of Biomedical Informatics, 2020-2021

- Chair, Student Engagement Committee, The Ohio State University Department of Biomedical Informatics, 2019-2021
- Member, Graduate Studies Coordinating Committee, The Ohio State University Department of Biomedical Informatics, 2019-2021
- Member, Fellowship Scholarly Oversight Committee, Nationwide Children's Hospital Division of Emergency Medicine, 2015-2019

### **Data Safety Monitoring Committee**

- Initiation of injectable contraception immediately postpartum among breastfeeding women (PI: M. Gallo)

## **PROFESSIONAL SERVICE**

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### **Consultation**

- Invited participant, Incorporating Intervention Effectiveness in Opioid Systems Modeling: An HHS Interagency Collaboration, Duke-Margolis Center for Health Policy and United States Food and Drug Administration, October 2020.  
*Purpose: This meeting will support continued interagency collaboration and aims to facilitate the exchange of information about priority data needs and initial findings from modeling efforts.*
- Member, Comprehensive Monitoring Team, Ohio Department of Health, 2020-2021  
*Purpose: This team is tasked with consulting on the development of a syndromic surveillance and outbreak detection system to detect potential future COVID-19 outbreaks in Ohio.*
- Invited participant, Data Needs in Opioid Systems Modeling: An HHS Interagency Collaboration, United States Food and Drug Administration, April 2019.  
*Purpose: The meeting brought together modeling teams, federal partners, data experts, and other stakeholders to foster a broad community of modeling expertise.*

### **Grant Reviews**

- Ad hoc Reviewer, NIH Population and Public Health Approaches to HIV/AIDS (PPAH) Study Section, 2021
- Reviewer, Pediatric Emergency Medicine Clinical Research Committee Concepts for Multicenter Research, 2018
- Reviewer, NIH NIEHS Special Emphasis Panel Powering Research through Innovative Methods for mixtures in Epidemiology (PRIME), 2017

### **Editorial Positions**

- Editorial Board, *Epidemiology*, 2022-present

### **Article Reviews**

#### *Journal (Frequency)*

- *Annals of Applied Statistics* (2), *Biometrical Journal* (1), *BMC Medical Research Methodology* (1), *CPT: Pharmacometrics and Systems Pharmacology* (1), *Developmental Cognitive Neuroscience* (1), *Drug and Alcohol Dependence* (1), *Epidemiology* (11), *Health Services and Outcomes Research Methodology* (1), *International Journal of Drug Policy* (1), *Journal of Educational and Behavioral Statistics* (1), *Journal of Neurotrauma* (1), *Journal of Survey Statistics and Methodology* (1), *Journal of the American Statistical Association* (2), *Paediatric and Perinatal Epidemiology* (1), *PLOS One* (3), *STAT* (1), *Statistical Methods in Medical Research* (1)

#### *Technical Report*

- Spatial Analysis Report. Demographic and Health Surveys Program, United States Agency for International Development (USAID)

### **Committees**

- Member, Organizing Committee, Emerging Methods in Translational Science: Contemporary Challenges in Prediction Modeling, 2022 CTSI Methods Conference, 2022
- Member, Florence Nightingale Day for Statistics and Data Science Board of Directors, 2021-present
- Member, ENAR Regional Advisory Board, 2021-present
- Member, HPSS Mentoring Studio Organizing Committee, American Statistical Association Health Policy Statistics Section, 2021-2022
- Member, Florence Nightingale Day Committee, American Statistical Association & Caucus for Women in Statistics, 2019-2021
- Member, The Ohio State-Cleveland Clinic-Case Western Reserve Biostatistics Symposium Planning Committee, 2020-2021
- Member, Scientific Advisory Committee, Great Lakes Node of the Pediatric Emergency Care Applied Research Network (PECARN), 2019-2020

### **Conference Activities**

- Chair, Session on “Dynamic Treatment Regimens.” ENAR Spring Meeting, 2021.
- Judge, Poster Session, 2021 OSUCOM Trainee Research Day, 2021.
- Moderator, Breakout Session on “Climate and Public Health.” Byrd Center Symposium on Climate Change, 2020.
- Chair, Session on “Advances in Resource Allocation for Epidemic Control: Estimation, Optimization, and Counterfactuals.” Joint Statistical Meetings, 2020.
- Organizer, Session on “Leveraging existing data on the opioid epidemic to quantify risk and inform policy.” International Conference on Health Policy Statistics, 2020.
- Program Committee Member, IEEE International Conference on Bioinformatics and Biomedicine, 2019.
- Chair, Session on “Joint Modeling of Longitudinal And Survival Data.” Joint Statistical Meetings, 2019.
- Co-organizer and Chair, Session on “Statistics and informatics: Stronger together.” ENAR Spring Meeting, 2018.

## **ADVISING**

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### **Wake Forest University**

*M.S. Committee Member*

- Alexander Ivanov, MD, Translational Health System Science, 2022  
Capstone:
- Samuel Carmichael II, MD, Translational Health System Science, 2021  
Capstone: Geographic Variation in Operative Management of Adhesive Small Bowel Obstruction

### **Boston University**

*Ph.D. Dissertation Committee Member*

- Jianing Wang, Biostatistics, current

### **The Ohio State University**

*M.S. Thesis Advisor*

- Yuhan Pan, Biomedical Informatics, 2020  
Thesis: Examining Opioid-related Overdose Events in Dayton, OH using Police, Emergency Medical Services and Coroner's Data

*Ph.D. Dissertation Committee Member*

- Angela Hetrick, Epidemiology, current
- Payal Chakraborty, Epidemiology, 2022  
Dissertation: Analysis of 2019 Ohio Disease Intervention Specialist (DIS) Data for Syphilis Using Natural Language Processing (NLP) Methods
- Daniel Brook, Epidemiology, 2022  
Dissertation: Hepatitis C Virus Vulnerability, Testing, and Prevention among People Who Use Drugs in Southern Appalachian Ohio

*M.S. Thesis Committee Member*

- Anqi Liu, Biostatistics, 2018  
Thesis: Modeling of the Patient Flow Process in the Pediatric Emergency Department and Identification of Relevant Factors

*MPH Culminating Project Committee Member*

- Nida Viqar, Biomedical Informatics, 2021  
Culminating Project: Informing Development of a Mobile Health Application for Outpatient Parenteral Antibiotic Therapy
- Nicholas Pondel, Biomedical Informatics, 2019  
Culminating Project: A Framework for Creating Structured Data from Mixed Free-Text and Categorical Data: Repurposing Emergency Medical Services Data for the Assessment of Child Maltreatment Risk

*MPH Practicum Preceptor*

- Daria Faulkner, Health Behavior and Health Promotion, 2021  
Practicum Project: Implementation of Bandits Algorithm in COVID-19 Active Surveillance Program
- Sophia Padgett, Epidemiology, 2021  
Practicum Project: Bandit Algorithm Public Health Practice Project
- Amanda Bleichrodt, Epidemiology, 2021  
Practicum Project: The Bandit Algorithm Project

**Nationwide Children's Hospital**

*Pediatric Emergency Medicine Fellowship Committee Member*

- Colleen Bressler, MD, 2019  
Project: Characteristics of Neighborhoods Where Emergency Medical Services Encounter Children at Risk for Maltreatment
- Katherine Battisti, MD, 2019  
Project: A Paucity of Code Status Documentation Despite Increasing Complex Chronic Disease in Pediatrics
- Elaise Hill, MD, 2019  
Project: Novel urine biomarkers to distinguish UTI from culture-negative pyuria
- Nathan Jamieson, MD, 2019  
Project: Respiratory Pathogen Detection in Pediatric Patients Intubated for Presumed Infection
- Jordee Wells, MD, 2019  
Project: Trends in adolescent birth and abortion rates from 2000 - 2014 across the United States
- Seth Linakis, MD, 2018  
Project: Field triage of children with abdominal trauma

- Tracy Wagner, MD, 2018  
Project: A Quality Improvement Initiative to Increase the Number of Pediatric Resident Laceration Repairs
- Renas Almubarak, MD MPhil, 2018  
Project: Somali Use of the Pediatric Emergency Department

## **PROFESSIONAL MEMBERSHIPS**

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International Society for Bayesian Analysis, 2018-present  
International Biometric Society, Eastern North American Region (ENAR), 2014-present  
American Statistical Association, 2007-present  
The Ohio Academy of Science, 2018-2021