Grant Brown

College of Public Health Curriculum Vitae

Department of Biostatistics
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Educational and Professional History

Degrees Earned

2010	BS in Statistics, University of Iowa, Iowa City, Iowa
2010	BA in International Studies, University of Iowa, Iowa City, Iowa
2012	MS in Biostatistics, University of Iowa, Iowa City, Iowa
2015	PhD in Biostatistics, University of Iowa, Iowa City, Iowa

Employment History

2013	Statistical Consultant, University of Iowa College of Nursing, Iowa City, Iowa
2013	Programmer, HOBU Inc., Iowa City, Iowa
2009 - 2015	Research Assistant, Center for Public Health Statistics, The University of Iowa College of Public Health, Iowa City, Iowa
2015 - Present	Assistant Professor, Department of Biostatistics, University of Iowa, College of Public Health, Iowa City, Iowa

Honors and Awards

2018	2018 Opioid Ideas Lab Fellow, Office of Research and Economic Development, University of Iowa, Iowa City, Iowa
2018	"Thank-a-Teacher" Program, University of Iowa Office of Teaching, Learning and Technology
2019	"Thank-a-Teacher" Program, University of Iowa Office of Teaching, Learning, and Technology
2019	CPH Faculty Teaching Award, College of Public Health, The University of Iowa, Iowa City, Iowa
2020	"Thank-a-Teacher" Program, University of Iowa Office of Teaching, Learning, and Technology
2023	Delta Omega Honorary Society in Public Health, College of Public Health, Iowa City, Iowa
2023	"Thank-a-Teacher" Program, University of Iowa Office of Teaching, Learning, and Technology

Teaching

Course Teaching

University of Iowa

Summer 2013	Design and Analysis of Biomedical Experiments, BIOS:5110, Credit Hours: 3, Enr: 14, Percent of Course: 100.0%
Spring 2016	Introduction to Biostatistics, BIOS:4120:0A01, Credit Hours: 3, Enr: 26
Spring 2016	Introduction to Biostatistics, BIOS:4120:0A02, Credit Hours: 3, Enr: 26
Spring 2016	Introduction to Biostatistics, BIOS:4120:0A03, Credit Hours: 3, Enr: 18
Spring 2016	Introduction to Biostatistics, BIOS:4120:0A04, Credit Hours: 3, Enr: 19
Spring 2016	Introduction to Biostatistics, BIOS:4120:0AAA, Enr: 89, Percent of Course: 100.0%
Spring 2016	Thesis/Dissertation, BIOS:7900:0215, Percent of Course: 100.0%
Fall 2016	Introduction to Biostatistics, BIOS:4120:0AAA, Enr: 85, Percent of Course: 100.0%
Fall 2016	Introduction to Biostatistics, BIOS:4120:0EXW, Percent of Course: 100.0%
Fall 2016	Thesis/Dissertation, BIOS:7900:1672, Percent of Course: 100.0%
Spring 2017	Biostatistical Methods II, BIOS:5720:0AAA, Enr: 10, Percent of Course: 100.0%
Spring 2017	Introduction to Biostatistics, BIOS:4120:0EXW, Credit Hours: 3, Enr: 29, Percent of Course: 2.0%
Spring 2017	Preceptorship in Biostatistics, BIOS:7500:4454, Percent of Course: 100.0%
Spring 2017	Thesis/Dissertation, BIOS:7900:5234, Percent of Course: 100.0%
Fall 2017	Advanced Biostatistics Seminar, BIOS:7600:0001, Enr: 11, Percent of Course: 100.0% 2,3
Fall 2017	Introduction to Biostatistics, BIOS:4120:0EXW, Credit Hours: 3, Enr: 40, Percent of Course: 2.0%
Fall 2017	Preceptorship in Biostatistics, BIOS:7500:6655, Percent of Course: 100.0%
Fall 2017	Thesis/Dissertation, BIOS:7900:6911, Percent of Course: 100.0%
Spring 2018	Introduction to Biostatistics, BIOS:4120:0EXW, Percent of Course: 3.0%
Spring 2018	Preceptorship in Biostatistics, BIOS:7500:9285, Percent of Course: 100.0%
Spring 2018	Regression & ANOVA in Health Sciences, BIOS:5120:0001, Credit Hours: 3, Enr: 43, Percent of Course: 100.0%
Spring 2018	Thesis/Dissertation, BIOS:7900:9805, Percent of Course: 100.0%
Summer 2018	Introduction to Biostatistics, BIOS:4120:0EXW, Percent of Course: 1.0%
Fall 2018	Biostatistical Methods I, BIOS:5710:0A01, Credit Hours: 4, Enr: 20
Fall 2018	Biostatistical Methods I, BIOS:5710:0AAA, Enr: 20
Fall 2018	Introduction to Biostatistics, BIOS:4120:0EXW, Credit Hours: 3, Enr: 40, Percent of Course: 3.0%
Fall 2018	Preceptorship in Biostatistics, BIOS:7500:1093, Enr: 1, Percent of Course: 100.0%

Spring 2019	Introduction to Biostatistics, BIOS:4120:0EXW, Credit Hours: 3, Enr: 20, Percent of Course: 100.0%
Spring 2019	Regression & ANOVA in Health Sciences, BIOS:5120:0001, Credit Hours: 3, Enr: 39, Percent of Course: 100.0%
Summer 2019	Introduction to Biostatistics, BIOS:4120:0EXW, Credit Hours: 3, Enr: 21, Percent of Course: 2.0%
Fall 2019	Advanced Biostatistical Computing, BIOS:7330:0001, Credit Hours: 3, Enr: 18, Percent of Course: 100.0%
Fall 2019	Independent Study in Biostatistics, BIOS:7800:4994, Enr: 1, Percent of Course: 100.0%
Fall 2019	Introduction to Biostatistics, BIOS:4120:0EXW, Credit Hours: 3, Enr: 34, Percent of Course: 2.0%
Fall 2019	Preceptorship in Biostatistics, BIOS:7500:5306, Enr: 3, Percent of Course: 100.0%
Fall 2019	Thesis/Dissertation, BIOS:7900:6723, Enr: 1, Percent of Course: 100.0%
Spring 2020	Introduction to Biostatistics, BIOS:4120:0EXW, Credit Hours: 3, Enr: 35, Percent of Course: 2.0%
Spring 2020	Practicum in College Teaching, GRAD:7400:0012, Enr: 1, Percent of Course: 100.0%
Spring 2020	Preceptorship in Biostatistics, BIOS:7500:7700, Enr: 1, Percent of Course: 100.0%
Spring 2020	Regression & ANOVA in Health Sciences, BIOS:5120:0001, Credit Hours: 3, Enr: 43, Percent of Course: 100.0%
Spring 2020	Regression & ANOVA in Health Sciences, BIOS:5120:0EXW, Credit Hours: 3, Enr: 8, Percent of Course: 100.0%
Spring 2020	Thesis/Dissertation, BIOS:7900:7579, Enr: 2, Percent of Course: 100.0%
Fall 2020	Introduction to Biostatistics, BIOS:4120:0A01, Credit Hours: 3, Enr: 21, Percent of Course: 100.0%
Fall 2020	Introduction to Biostatistics, BIOS:4120:0A02, Credit Hours: 3, Enr: 26, Percent of Course: 100.0%
Fall 2020	Introduction to Biostatistics, BIOS:4120:0A03, Credit Hours: 3, Enr: 17, Percent of Course: 100.0%
Fall 2020	Introduction to Biostatistics, BIOS:4120:0A04, Credit Hours: 3, Enr: 23, Percent of Course: 100.0%
Fall 2020	Introduction to Biostatistics, BIOS:4120:0AAA, Enr: 87, Percent of Course: 100.0%
Fall 2020	Introduction to Biostatistics, BIOS:4120:0EXW, Credit Hours: 3, Enr: 24, Percent of Course: 2.0%
Spring 2021	Regression & ANOVA in Health Sciences, BIOS:5120:0001, Credit Hours: 3, Enr: 35, Percent of Course: 100.0%
Spring 2021	Regression & ANOVA in Health Sciences, BIOS:5120:0EXW, Credit Hours: 3, Percent of Course: 100.0%
Fall 2021	Advanced Biostatistical Computing, BIOS:7330:0001, Credit Hours: 3, Enr: 23, Percent of Course: 100.0%
Spring 2022	Biostatistical Methods II, BIOS:5720:0001, Credit Hours: 4, Enr: 11, Percent of Course: 100.0%

Spring 2023	Introduction to Biostatistics, BIOS:4120:0AAA, Credit Hours: 3, Enr: 88, Percent of Course: 100.0%
Fall 2023	Advanced Biostatistical Computing, BIOS:7330:0001, Credit Hours: 3, Enr: 13, Percent of Course: 100.0%
Fall 2024	Biostatistical Methods I, BIOS:5710:0001, Credit Hours: 4, Enr: 15, Percent of Course: 100.0%
Spring 2025	Introduction to Biostatistics, BIOS:4120:0AAA, Credit Hours: 3, Enr: 90, Percent of Course: 100.0%
Fall 2025	Advanced Biostatistical Computing, BIOS:7330:0001, Credit Hours: 3, Enr: 9, Percent of Course: 100.0%
Spring 2026	Advanced Biostatistics Seminar, BIOS:7600:0001, Credit Hours: 2, Enr: 13, Percent of Course: 100.0%

Scholarship/Professional Productivity

Publications or creative works

Peer-reviewed papers and journal articles

1. Zhang, Y., Doucette, W., Pendergast, J., **Brown, G.** & Frank, J. (2014). Assessing the effect of a cost management component in a targeted intervention program. (Vols. 17). (3), pp. A149-A150. Value in Health. DOI: 10.1016/j.jval.2014.03.869.
2. Doucette, W. R., Pendergast, J. F., Zhang, Y., **Brown, G.**, Chrischilles, E. A., Farris, K. B. & Frank, J. (2015). Stimulating comprehensive medication reviews among Medicare part D beneficiaries. (Vols. 21). (6), pp. e372-8. American Journal of Managed Care. PMID: 26247578.
3. Oleson, J. J., Cavanaugh, J. E., McMurray, B. & **Brown, G.** (2015). Detecting time-specific differences between temporal nonlinear curves: Analyzing data from the visual world paradigm. (Vols. Epub ahead of print). Statistical Methods in Medical Research. PMID: 26400088.
4. **Brown, G.**, Oleson, J. J. & Porter, A. T. (2016). An empirically adjusted approach to reproductive number estimation for stochastic compartmental models: A case study of two Ebola outbreaks. (Vols. 72). (2), pp. 335-43. Biometrics. DOI: 10.1111/biom.12432. PMID: 26574727.
5. Carnahan, R. M., **Brown, G. D.** & Letuchy, E. M. (2017). Impact of programs to reduce antipsychotic and anticholinergic use in nursing homes. Alzheimer's & Dementia: Translational Research & Clinical Interventions. DOI: 10.1016/j.trci.2017.02.003.
6. **Brown, G. D.**, Porter, A. T., Oleson, J. J. & Hinman, J. A. (2018). Approximate Bayesian computation for spatial SEIR(S) epidemic models. (Vols. 24). pp. 27-37. Spatial and Spatiotemporal Epidemiology. DOI: 10.1016/j.sste.2017.11.001. PMID: 29413712. PMCID: PMC5806152.
7. Ozanne, M. V., **Brown, G. D.**, Oleson, J. J., Iraci, L. D. & Jeronimo, S. M. (2018). Bayesian compartmental model for an infectious disease with dynamic states of infection. In No. (Vols. 46). (6), pp. 1043-1065. Journal of Applied Statistics. DOI: 10.1080/02664763.2018.1531979. PMID: 31537954. PMCID: PMC6752225.
8. Polgreen, P. M., **Brown, G. D.**, Hornick, D. B., Ahmad, F., London, B., Stoltz, D. & Comellas, A. (2018). CFTR heterozygotes are at increased risk of respiratory infections: a population-based study. (Vols. 5). (11), pp. ofy219. Open Forum Infectious Diseases. DOI: 10.1093/ofid/ofy219. PMID: 30397620. PMCID: PMC6210382.
9. Toepp, A., Monteiro, G. R., Coutinho, J. F., Lima, A. L., Larson, M., Wilson, G., Grinnage-Pulley, T., Bennett, C., Mahachi, K., Anderson, B., Ozanne, M., Anderson, M., Fowler, H., Parrish, M., Saucier, J., Tyrrell, P., Palmer, Z., Buch, J., Chandrashekar, R., **Brown, G.**, Oleson, J., Beleza Jeronimo, S. M. & Petersen, C.

(2019). Comorbid infections induce progression of visceral Leishmaniasis. (Vols. 12). (1), pp. 54. Parasites & Vectors. DOI: 10.1186/s13071-019-3312-3. PMID: 30674329. PMCID: PMC6345068.

10. Ranapurwala, S., Carnahan, R., **Brown, G.**, Hinman, J. & Casteel, C. (2019). Impact of Iowa's prescription monitoring program on opioid pain reliever prescribing patterns: An interrupted time series study 2003-2014. (Vols. 20). (2), pp. 290-300. Pain Medicine. DOI: 10.1093/pm/pny029. PMID: 29509935.
11. Oleson, J. J., **Brown, G. D.** & McCreery, R. (2019). The evolution of statistical methods in speech, language, and hearing sciences. (Vols. 62). (3), pp. 498-506. Journal of Speech, Language, and Hearing Research. DOI: 10.1044/2018_JSLHR-H-ASTM-18-0378. PMID: 30950732. PMCID: PMC6802898.
12. Oleson, J. J., **Brown, G. D.** & McCreery, R. (2019). Essential statistical concepts for research in speech, language, and hearing sciences. Journal of Speech, Language, and Hearing Research.
13. Gilbert, P. A., George, P., Sarah, Z., Mulia, N. & **Brown, G.** (2019). Gender differences in use of alcohol treatment services and reasons for non-use in a national sample. (Vols. 43). (4), pp. 722-731. Alcoholism: Clinical and Experimental Research. DOI: 10.1111/acer.13965. PMID: 30807660. PMCID: 30807660.
14. Mahachi, K., Kontowicz, E., Anderson, B., Toepp, A., Leal Lima, A., Larson, M., Wilson, G., Grinnage-Pulley, T., Bennett, C., Ozanne, M., Anderson, M., Fowler, H., Parrish, M., Saucier, J., Tyrell, P., Palmer, Z., Buch, J., Chandrashekar, R., Scorza, B., **Brown, G.**, Oleson, J. & Petersen, C. (2020). Predominant risk factors for tick-borne coinfections in US hunting dogs. (Vols. 13). (13), pp. 247. Parasites and Vectors. DOI: 10.1186/s13071-020-04118-x. PMID: 32404151. PMCID: PMC7218638.
15. Dong, R., Johnson, J., Han, C., Kandula, R., Kort, A., Wong, M., Yang, T., Breheny, P., **Brown, G.** & Haim, H. (2020). Key P\positions of HIV-1 Env and signatures of vaccine efficacy show gradual reduction of population founder effects at the clade and regional levels. (Vols. 11). (3), pp. e00126-20. mBio. DOI: 10.1128/mBio.00126-20. PMID: 32518179. PMCID: PMC7373194.
16. Ozanne, M. V., **Brown, G. D.**, Toepp, A. J., Scorza, B. M., Oleson, J. J., Wilson, M. E. & Petersen, C. A. (2020). Bayesian compartmental models and associated reproductive numbers for an infection with multiple transmission modes. (Vols. 76). (3), pp. 711-721. Biometrics. DOI: 10.1111/biom.13192. PMID: 31785149. PMCID: PMC7673222.
17. Boles, C., **Brown, G.**, Park, J. & Nonnenmann, M. (2020). The optimization of methods for the collection of aerosolized murine norovirus. (Vols. 12). (3), pp. 199-208. Food and Environmental Virology. DOI: 10.1007/s12560-020-09430-4. PMID: 32524378.
18. Seedorrff, N. & **Brown, G. D.** (2021). totalvis: A principal components approach to visualizing total effects in black box models. (Vols. 2). pp. 141. SN Computer Science.
19. Gomes-Solecki, M., O'connell, K., Nair, N., Brisson, D., Ostfeld, R. S., Penney, J., Oleson, J. J., Petersen, C. A. & **Brown, G. D.** (2021). Maternal transfer of neutralizing antibodies after oral immunization with OspA and their impact in the enzootic cycle of *B. burgdorferi.*. (Vols. 39). (31), pp. 4320-4327. Vaccine. DOI: DOI: 10.1016/j.vaccine.2021.06.025. PMID: 34172332. PMCID: PMC8495753.
20. Boles, C., Nonnenmann, M. & **Brown, G.** (2021). Determination of murine norovirus aerosol concentration during toilet flushing. (Vols. 11). (1), pp. 23558. Scientific Reports. DOI: 10.1038/s41598-021-02938-0. PMID: 34876637. PMCID: PMC8651634.
21. Gilbert, P. A., Soweid, L., Kersten, S., **Brown, G. D.**, Zemore, S. E., Mulia, N. & Skinstad, A. (2021). Maintaining recovery from alcohol use disorder during the COVID-19 pandemic: The importance of recovery capital. (Vols. 229). (Pt A), pp. 109142. Drug and Alcohol Dependence. DOI: 10.1016/j.drugalcdep.2021.109142. PMID: 34775185. PMCID: PMC8552632.
22. Riley, J., Huntley, J., Miller, J., Slaichert, A. & **Brown, G. D.** (2022). Mask effectiveness in practice: secondary attack rates of COVID-19 in non-household contacts in Johnson County, Iowa. (Vols. 28). (1), pp. 69-75. Emerging Infectious Diseases. DOI: 10.3201/eid2801.211591.
23. Van Ert, H. A., Bohan, D. W., Rogers, D. W., Fili, K. J., Rojas, C., Anthony, R., Qing, E., Han, C., Dempewolf, S. M., Hu, G., Schwery, N., Sevcik, K. M., Ruggio, N., Boyt, D., Pentella, M., Gallagher, T., Brooks, J., Merril, A. E., Knudson, M. c., **Brown, G. D.**, Maury, W. & Haim, H. (2022). Limited variation between SARS-CoV-2-infected individuals in domain specificity and relative potency of the antibody response against the

spike glycoprotein. (Vols. 10). (1), pp. e0267621. Microbiology Spectrum. DOI: 10.1128/spectrum.02676-21. PMID: 35080430. PMCID: PMC8791189.

24. Ozanne, M. V., **Brown, G. D.**, Scorza, B. M., Mahachi, K., Toepp, A. J. & Petersen, C. A. (2022). Bayesian latent class models for identifying canine visceral leishmaniosis using diagnostic tests in the absence of a gold standard. (Vols. 16). (3), pp. e0010236. PLoS Neglected Tropical Diseases. DOI: 10.1371/journal.pntd.0010236. PMID: 35286301. PMCID: PMC8947804.
25. Kontowicz, E., **Brown, G.**, Torner, J., Carrel, M., Baker, K. & Petersen, C. (2022). Inclusion of environmentally themed search terms improves Elastic Net regression nowcasts of regional Lyme disease rates. (Vols. 17). (3), pp. e0251165. PLoS ONE. DOI: 10.1371/journal.pone.0251165. PMID: 35271589. PMCID: PMC8912246.
26. Kontowicz, E., **Brown, G. D.**, Torner, J., M. C., Baker, K. & Petersen, C. (2022). Days of flooding associated with increased risk of influenza. (Vols. 2022). pp. 8777594. Journal of Environmental and Public Health. DOI: 10.1155/2022/8777594. PMID: 35692665. PMCID: PMC9187473.
27. Martinez, K., **Brown, G. D.** & Pankavich, S. (2022). Spatially-heterogeneous embedded stochastic SEIR models for the 2014-2016 Ebola outbreak in West Africa. (Vols. 41). pp. 100505. Spatial and Spatiotemporal Epidemiology. DOI: 10.1016/j.sste.2022.100505. PMID: 35691641.
28. Gilbert, P., Saathoff, E., Russell, A. & **Brown, G. D.** (2022). Gender differences in lifetime and current use of online support for recovery from alcohol use disorder. (Vols. 46). (6), pp. 1073-1083. Alcoholism: Clinical and Experimental Research. DOI: 10.1111/acer.14827. PMID: 35717651. PMCID: PMC9246832.
29. Chae, S., Gilbertson-White, S., Cherwin, C., Moorhead, S., **Brown, G.** & Street, N. (2022). Longitudinal subgrouping of cancer patients with similar symptom experiences: A systematic review. (Vols. 49). (4), pp. E17-E30. Oncology Nursing Forum. DOI: 10.1188/22.ONF.E17-E30.
30. Ogwo, C., Levy, S., Warren, J., Caplan, D., **Brown, G.D.** (2023) Research Square DOI: 10.21203/rs.3.rs-3125821/v1
31. Ogwo, C., **Brown, G.D.**, Warren, J., Caplan, D., Levy, S. (2023) Dental carries incidence and associated factors in young adults. Journal of Public Health Dentistry. DOI: 10.1111/jphd.12586
32. Pabon-Rodriguez, F.M., **Brown, G.D.**, Scorza, B.M., Petersen, C.A. (2023). Bayesian hierarchical model for immune responses to Leishmania – a tick borne co-infection study. PLoS Neglected Tropical Diseases. DOI: 10.1101/2022.06.20.496877
33. Hernandez, H.G., **Brown, G.D**., Lima, I.D., Coutinho, J.F., Wilson, M.E., Nascimento, E.L.T., Jeronimo S.M.B., Petersen, C.A., Oleson, J.J. (2023). Hierarchical spatiotemporal modeling of human Visceral Leishmaniasis in Rio Grande do Norte, Brazil. PLoS Neglected Tropical Diseases. DOI: 10.1371/journal.pntd.0011206
34. Ward, C., **Brown, G.** & Oleson, J. (2023). An individual level infectious disease model in the presence of uncertainty from multiple, imperfect diagnostic tests. (Vols. 79). (1), pp. 426-436. Biometrics. DOI: 10.1111/biom.13579. PMID: 34636415. PMCID: PMC8653294.
35. Ward, C., **Brown, G.** & Oleson, J. (2023). Incorporating infectious duration-dependent transmission into Bayesian epidemic models. (Vols. 65). (3), pp. e2100401. Bayesian Analysis. DOI: 10.1002/bimj.202100401. PMID: 36285663.
36. Ward, C., **Brown, G.** & Oleson, J. (2023). Incorporating infectious duration-dependent transmission into Bayesian epidemic models. Oleson, J. (Eds.) (Vols. 65). (3), pp. e2100401. Biometrical Journal. DOI: 10.1002/bimj.202100401. PMID: 36285663.
37. Pratt, A. A., **Brown, G. D.**, Perencevich, E. N., Diekema, D. J. & Nonnenmann, M. W. (2023). Comparison of virus aerosol concentrations across a face shield worn on a healthcare personnel during a simulated patient cough. (Vols. 12). pp. 1-6. Infection Control and Hospital Epidemiology. DOI: 10.1017/ice.2023.130. PMID: 37609833.
38. Pabon-Rodriguez, F. M., **Brown, G. D.**, Scorza, B. M. & Petersen, C. A. (2023). Bayesian multivariate longitudinal model for immune responses to Leishmania: A tick-borne co-infection study. (Vols. 42). (21), pp. 3860-3876. Statistics in Medicine. DOI: 10.1002/sim.9837. PMID: 37350148.

39. Chukweuebuka, O., **Brown, G. D.**, Warren, J., Caplan, D. & Levy, S. (2023). Dental caries incidence and associated factors in young adults. (Vols. 83). (4), pp. 347-354. Journal of Public Health Dentistry. DOI: 10.1111/jphd.12586. PMID: 37776306.
40. Davis, J. A., Casteel, C., **Brown, G. D.** & Carnahan, R. (2023). Fracture risk and opioid use in patients aged 17-64 years: An analysis of administrative claims data. (Vols. 43). (9), pp. 913-921. Pharmacotherapy. DOI: 10.1002/phar.2849. PMID: 37455671.
41. Pabon-Rodriguez, F. M., **Brown, G. D.**, Scorza, B. M. & Petersen, C. A. (In Press). Within-host Bayesian joint modeling of longitudinal and time-to-event data of Leishmania infection. PLoS-One. DOI: 10.1101/2023.09.11.557114. Preprint. PMID: 37745423. PMCID: PMC10515798.
42. Seedorff, N., **Brown, G. D.** & Scorza, B. M. (2023). Joint Bayesian longitudinal models for mixed outcome types and associated model selection techniques. (Vols. 38). (4), pp. 1735-1769. Computational Statistics. DOI: 10.1007/s00180-022-01280-x. PMCID: 38292019.
43. Bohr, N.L., **Brown, G.D.**, Rakel, B., Babrowski, T., Dorsey, C., Kelly, C. (2024) Predictive Modeling for One-Year Lower Extremity Endovascular Revascularization Failure in Black Persons. Journal of Surgical Research. DOI: 10.1016/j.jss.2024.04.068
44. Nakkash, R., Ghandour, L., **Brown, G.D.**, Panter-Brick, C., Bomar, H., Tleis, M., Al Masri, H., Fares, M., Al Halabi, F., Najjar, Y.,Louis, B., Hodroj, M., Chamoun, Y., Zarzour, M., Afifi, R.A. (2024) Syrian refugee young adults as community mental health workers implementing problem management plus: Protocol for a pilot randomized controlled trial to measure the mechanisms of effect on their own wellbeing, stress and coping. Contemporary clinical trials communications. DOI: 10.1016/j.conctc.2024.101325
45. Gilbert, P., Soweid, L., Evans, S., **Brown, G.D.**, Skinstad, A.H., Zemore, F. (2024) How Recovery Definitions Vary by Service Use Pathway: Findings From a National Survey of Adults. Psychology of Addictive Behaviors. DOI: 10.1037/adb0001026
46. Ghandour, L., **Brown, G.D.**, Tleis, M., al Masri, H., Fares, M., Al Halabi, F., Najjar, Y., Louis, B., Afifi, R., Nakkash, R. (2024) Structural and political determinants of health among Syrian refugee young adults in the Bekaa, Lebanon: a prospective cohort study of the impact of security raids on perceived discrimination and well-being. BMJ Open. DOI: 10.1136/bmjopen-2024-087777
47. Rojas Chavez, R.A., Fili, M., Han, C., Rahman, S.A., Bicar, I.G.L., Gregory, S., Helverson, A., Hu, G., Darbro, B.W., Das, J., **Brown, G.D.**, Haim, H. (2024) Mapping the Evolutionary Space of SARS-CoV-2 Variants to Anticipate Emergence of Subvariants Resistant to COVID-19 Therapeutics. PLOS Computational Biology. DOI: 10.1371/journal.pcbi.1012215
48. Asif, K., Mitra, A., Orteg-Gutierrez S., et.al. (2024) Geo-Spatial Analysis of Acute Ischemic Stroke Reperfusion Treatment in India: An Assessment of Distribution and Access to Centers. International Journal of Stroke DOI: 10.1177/17474930241312598
49. Nwoke, U., Farooqui, M., Oleson, J., Mohr, N., Ortega-Gutierrez,S., **Brown, G.D.** (2024) Bayesian modelling framework for optimizing pre-hospital stroke triage decisions. Journal of Applied Statistics DOI: 10.1080/02664763.2024.2360590
50. Land, D., Brown, G.D., Cwiertny, D.M, Edwards, M.A., Hanna M., Latta, D.E., Scherer, M.M. (2025) A Novel, Metal-Based Approach to Identify Residences with Lead Service Lines. *Ecotoxicology and Public Health*. doi: 10.1021/acs.estlett.5c00552
51. Scorza, B.M., et. al. (2025) Tick-borne coinfections modulate CD8+ T cell response and progressive leishmaniosis. *Infect. Immun.* doi: 10.1128/iai.00182-25
52. Cai, J., et. al. (2025) Understanding Users in Small Area Cancer Mapping: Insights from the Early Stages of a User-Centered Design Process. *Advances in Cartography and GIScience of the ICA.* doi: 10.5194/ica-adv-5-7-2025, 2025.
53. Fitzjerrells, R.L. et. al. (2025) Multiple sclerosis patients exhibit oral dysbiosis with decreased early colonizers and lower hypotaurine level. *NPJ Biofilms Microbiomes* doi: 10.1038/s41522-025-00787-7
54. Nair, N., Marques, A., Horn, E.J., **Brown, G.D.**, Gomes-Solecki, M. (2025) Class and isotype of VlsE-specific antibody differentiates Lyme disease stage. *Clinical Microbiology.* doi: 10.1128/jcm.00347-25.

55. Ogwo C., **Brown G. D.**, Warren J., Zeng E., Thomson M., Levy S. (2025) Predicting Group-Based Trajectories of Oral Health-Related Quality of Life From Late Adolescence to Early Adulthood Using K-Means Clustering Algorithm. *J Public Health Dent*. doi: 10.1111/jphd.70007.
56. Ogwo, C., **Brown, G.D.**, Warren, J., Okeagu, Pk., Caplan, D., Levy, S. (2026) Predicting Longitudinal Caries Trajectories From Childhood to Early Adulthood. *Journal of Dental Research.* In Press
57. Ghandour, L., **Brown, G.D.**, Tleis, M., Fares, M., Al Masri, H., Al Halabi, F., Najjar, Y., Louis, B., Nakkash, R., Afifi, R.A. (2026) Finding Strength in Adversity: Key Protective Factors and the Role of Experience of Discrimination in Young Adult Syrian Refugee Stress, Coping, and Wellbeing. *Conflict in Health*. In Press

Non-peer-reviewed journal articles

1. **Brown, G.** & Oleson, J. J. (2014). Estimating and predicting epidemic behavior for the 2014 West African Ebola Outbreak - A quick spatial SEIR modeling approach (2014 Online Report). Online Report.
2. **Brown, G.** & Oleson, J. J. (2015). Spatiotemporal epidemic modeling with libSpatialSEIR - Model specification, fitting, selection, and prediction. Geocomputation 2015, Proceedings.

Editorials

1. **Brown, G.** & Ozanne, M. (2019). Editorial: Statistical models for infectious diseases: A useful tool for practical decision-making. (Vols. 101). (1), pp. 1-2. American Journal of Tropical Medicine and Hygiene. DOI: 10.4269/ajtmh.19-0354. PMID: 31134882. PMCID: PMC6609166.

Other Publications

1. **Brown, G.** & Oleson, J. J. (2011). 2011 Iowa Health Fact Book. Editor, 2011 Iowa Health Fact Book.
2. **Brown, G.** (2012). Preceptorship Project: "Examining the Association between Influenza Epidemics, Temperature, and Demographic Information via a Spatial SIR Model" (Advisor: Dr. Jacob J. Oleson).
3. **Brown, G.** (2015). PhD Dissertation: "Application of Heterogeneous Computing Techniques to Compartmental Spatiotemporal Epidemic Models" (Advisor: Dr. Jacob J. Oleson).

Research Interests/Current Projects

- Bayesian Inference
- Stochastic Compartmental Models and Spatial Generalizations
- Statistical/Machine Learning, Ensemble Learning Techniques
- Data Visualization
- Statistical Computing
- Stroke Triage

Grants and Contracts

Active (Funded)

1. Recovery Definitions and Behavior Change Processes in Recovery Outside of Treatment; National Institutes of Health; Brown, Grant (Co-Investigator), Gilbert, Paul (Principal Investigator)
    - R01 AA027266
    - Sep 20, 2019 - Aug 31, 2024
    - Amount: $3,815,703.00, 10% effort
    - Only a minority of adults with alcohol use disorder ever obtain treatment, but a large proportion of them will go on to resolve their drinking problem. This study uses quantitative surveys and qualitative interviews to explore definitions of recovery, related behavior change strategies, and outcomes (such as stability of recovery) outside of treatment. Results will extend knowledge about alternate pathways to recovery and may lead to more efficacious, low threshold

interventions to promote recovery among those unable or unwilling to use specialty treatment services.

2. Healthy homes need healthy water: Developing and implementing a lead in drinking water assessment tool; US Department of Housing & Urban Development; Brown, Grant (Co-Investigator), Cwiertny, David (Principal Investigator)
    - IAHHU0067-21
    - Mar 2, 2022 - Mar 2, 2025
    - Amount: $773,263.00, 8% effort
3. Field Trial and Modeling of Transmission Blocking Vaccine to Prevent Lyme Disease; National Institutes of Health; Brown, Grant (Co-Investigator), Petersen, Christine (Principal Investigator)
    - R01 AI139267
    - Jun 19, 2019 - May 31, 2025
    - Amount: $3,646,646.00, 5% effort
    - Estimates from the CDC indicate that over 300,000 people are diagnosed each year with LD. Ecological approaches to decrease B. burgdorferi burden in Ixodes ticks, and transmission to other hosts, are highly desired tools for use instead of the current 'check for ticks' approach. It is well established that after a vertebrate host is immunized with B. burgdorferi' OspA they produce antibody that, upon bloodmeal ingestion by a feeding tick, kills B. burgdorferi within that tick. These are known as transmission-blocking vaccines (TBV). The goal of this work is to demonstrate that a commercial-grade reservoir targeted TBV alters B. burgdorferi infection prevalence in questing ticks, in endemic areas (PA and MD) geographically distinct from the first field trial (NY). These proposed studies are highly significant to public health as a field trial demonstration of a TBV that disrupts the enzootic transmission cycle of B. burgdorferi to incidental hosts. Furthermore, demonstration of reduced human (incidental host) Lyme disease will be performed through a stochastic Bayesian model that will provide critical evidence for a new tool to decrease environmental exposure to Lyme disease. This work innovates as a demonstration of an efficacious, easily distributable and inexpensive TBV that reduces B. burgdorferi prevalence in nymphal and adult ticks, as well as B. burgdorferi transmission from ticks to incidental hosts. Reduction of transmission of B. burgdorferi to incidental hosts as a result of TBV distribution will prove to be a paradigm-shifting strategy to reduce the burden of Lyme disease in veterinary and human populations. Findings from experiments proposed in this study will advance translational knowledge of B. burgdorferi vaccinology and will provide strong evidence regarding the possibility of TBV reducing the human health risk of exposure to Lyme disease across the United States.
4. Development of Small Area Interactive Risk Maps for Cancer Control Efforts; National Institutes of Health; Brown, Grant (Co-Investigator), Oleson, Jacob (Principal Investigator)
    - U01 CA258400
    - Jun 15, 2022 - May 31, 2025
    - Amount: $950,181.00, 8% effort
    - Aim 1: Develop a Bayesian hierarchical statistical model to create small area estimates of age-adjusted cancer rates per ZCTA for SEER regions over time. Aim 2: Develop and implement data visualization through interactive graphics that demonstrate how risk evolves in small areas over time. Aim 3: Determine feasibility of implementing the tools developed in Aims 1 and 2 within the SEER Program.
5. Trajectories/Predictors of Oral Health-Related Quality of Life to Early Adulthood; National Institutes of Health; Brown, Grant (Co-Investigator), Levy, Steven (Principal Investigator)
    - R03 DE031220

- Aug 1, 2022 - Jul 31, 2025
- Amount: $325,473.00, 5% effort
- The specific aims of the study will be to 1) determine the OHRQoL trajectories from late adolescence to young adulthood using unsupervised machine learning, and 2) identify predictors of trajectory group membership using supervised machine learning. The study will contribute significantly to our knowledge of adolescents'/young adults' OHRQoL trajectories and determinants. The outcomes will set the stage for clinicians and policymakers to transition to a care model that is more patient-centered, which will improve oral health outcomes, reduce oral health disparities, reduce costs, and increase patient satisfaction. Our research will introduce and showcase the usefulness of machine learning in oral health research. Long term, we will develop a web-based application that clinicians and policymakers can use to better design interventions and treatments to suit the oral health needs of individuals and populations.

6. (Iowa ISIB) Summer Institute for Research Education in Biostatistics and Data Science; National Institutes of Health; Brown, Grant (Co-Investigator), Zamba, Gideon (Principal Investigator)
    - R25 HL161716
    - Mar 1, 2022 - Feb 28, 2027
    - Amount: $1,280,640.00, 4% effort
    - We propose to enroll sixteen to eighteen students a year, including at least 50% of URM and at least 50% women, to build a pipeline with minority serving institutions, to build a longitudinal follow-up mechanism to track ISIB alumni into their graduate majors, and to measure an overall success through the percent of students who enroll in graduate programs in Biostatistics, Statistics, Data Science and in the STEM science data field.
7. Geospatial modeling for stroke care; National Institute of Health; Brown, Grant (Principal Investigator), Ortega Gutierrez, Santiago (Principal Investigator), Mohr, Nicholas (Principal Investigator)
    - R01 NS127114
    - Apr 1, 2022 - Mar 31, 2027
    - Amount: $2,533,419.00, 22% effort
8. Predicting HIV-1 Escape from Therapeutics in Vitro and in Vivo - Toward Personalizing Medicine for People Living with HIV; National Institutes of Health; Brown, Grant (Co-Investigator), Haim, Hillel (Principal Investigator)
    - R01 AI170205
    - Apr 21, 2023 - Mar 31, 2027
    - Amount: $2,276,904.00, 5% effort
    - This application proposes to investigate the "clues" that can be found in HIV-1 patients that describe their likelihoods to develop resistance to Env-targeting therapeutics.
9. Enrollment Management and Student Success Predictive Analytics; Office of the Provost, BISSC; Brown, Grant (Investigator)
    - Aug 2015 - Present

<u>Completed</u>

1. Factors Responsible for Racial-Gender Disparities in Alcohol Services Use; National Institutes of Health; Brown, Grant (Co-Investigator), Gilbert, Paul (Principal Investigator)
    - R21 AA023878
    - Apr 1, 2016 - Mar 31, 2018
    - Amount: $118,750.00, 10% effort

- Alcohol abuse and dependence are responsible for considerable public health harms; yet, the majority of people with an alcohol use disorder do not receive treatment, and some social groups are less likely than others to receive alcohol services. In addition, there are gender differences. Among those with alcohol use disorders, women are less likely to obtain treatment, more likely to present with comorbid conditions, and remain in treatment for shorter durations than men. Furthermore, gender may exacerbate racial/ethnic disparities. We will identify predisposing, enabling/inhibiting, and need factors associated with alcohol services use. Findings will extend current knowledge about the mechanisms responsible for disparities and may identify leverage points for interventions to increase alcohol services use.

2. Iowa Summer Institute for Research Education in Biostatistics; National Institutes of Health; Brown, Grant (Co-Investigator), Zamba, Gideon (Principal Investigator)
    - R25 HL131467
    - Feb 15, 2016 - Jan 31, 2019
    - Amount: $228,258.00, 4% effort
    - This is a proposal to the National Institutes of Health (NIH), National Heart, Lung and Blood Institute (NHLBI), from the University of Iowa, in response to RFA-HL-16-017 for a Summer Institute for Research Education in Biostatistics. The ultimate vision of our proposed research education program is to increase the number of undergraduates who enter graduate programs in Biostatistics and to maintain a solid underrepresented minority pipeline into biostatistics graduate programs. The proposal is for the University of Iowa (UI) Department of Biostatistics to recruit a diverse group of 18 trainees each year, from 2016 to 2018, with focus on minority, underrepresented and disadvantaged students who wouldn't have otherwise been exposed to the field of biostatistics.
3. Extension Connection: Advancing Dementia Care for Rural and Hispanic Populations; Patient-Centered Outcomes Research Institute; Brown, Grant (Co-Investigator), Carnahan, Ryan (Principal Investigator)
    - 1131 Mod 003
    - May 1, 2013 - Feb 13, 2019
    - Amount: $1,659,924.00, 10% effort
4. Expanding National Radon Action; American Lung Association; Brown, Grant (Principal Investigator)
    - No Contract #
    - Aug 15, 2019 - Sep 30, 2019
    - Amount: $6,974.00, 4% effort
5. University of Iowa Injury Prevention Research Center; Centers for Disease Control & Prevention; Brown, Grant (Co-Investigator), Casteel, Carri (Principal Investigator)
    - R49 CE002108
    - Aug 1, 2012 - Jul 31, 2020
    - Amount: $5,634,450.96, 1% effort
    - Established in 1990, the University of Iowa Injury Prevention Research Center (IPRC) is organized within the College of Public Health supporting interdisciplinary research to control and prevent injuries, especially in rural communities.
6. Deep Learning Methods to Personalize Antibody Therapeutics for Delaying Viral Rebound after Cessation of ART; American Foundation for AIDS Research; Brown, Grant (Co-Investigator), Haim, Hillel (Principal Investigator)
    - 110028-67-RGRL
    - Oct 1, 2020
    - Direct Cost: $132,560.00, 9% effort

- A primary goal in the HIV/AIDS field is design of interventions that would allow sustained HIV remission after cessation of antiretroviral therapy (ART). Several approaches have been tested over the years, including therapeutic vaccination (10), stem cell transplantation (11) and passive administration of antibodies (Abs). It is our long-term goal to develop the molecular-computational pipeline that would allow us to analyze a single pre-therapy sample to define the likelihood of each patient to develop secondary resistance to each treatment.

7. Iowa Summer Institute for Research Education in Biostatistics (ISIREB); National Institutes of Health; Brown, Grant (Co-Investigator), Zamba, Gideon (Principal Investigator)
    - R25 HL147231
    - Mar 1, 2019 - Feb 28, 2022
    - Direct Cost: $239,289.00, 8% effort
    - This is a proposal to the National Institutes of Health (NIH), National Heart, Lung and Blood Institute (NHLBI), from the University of Iowa, in response to RFA-HL-19-019 for an Iowa Summer Institute for Research Education in Biostatistics (ISIREB), Summer Programs 2019, 2020, & 2021.
8. Expanding National Radon Action: 2021-2023 Project; American Lung Association; Brown, Grant (Principal Investigator)
    - No Contract #
    - Oct 1, 2021 - Mar 31, 2022
    - Amount: $15,789.00, 5% effort
    - The University of Iowa will provide project support including developing a computer program to apply spatial smoothing techniques to allow meaningful analysis of data and creating state specific reports.
9. IDPH FY21 Screening Data Management; Iowa Department of Public Health; Brown, Grant (Co-Investigator), Oleson, Jacob (Principal Investigator)
    - 5881NB90
    - Aug 1, 1995 - Jun 29, 2022
    - Direct Cost: $101,057.00, 8% effort
    - Breast and Cervical Cancer Early Detection Program, Data and Entry Analysis; WISEWOMAN Enhanced Design, Data Entry and Analysis; Data Management subcontract. Subcontract studies design, data management, and analysis on this project.
10. Antibody Isotoping for Discrimination of Disease Stages and Diagnosis of Early Lyme Disease; Immuno Technologies, Inc.; Brown, Grant (Principal Investigator)
    - No Contract #
    - Jul 1, 2020 - Jun 30, 2022
    - 10% effort
    - We will perform statistical analyses, provide consultation concerning data issues, and provide general statistical support as needed. During the first year, we will support data collection and processing efforts, and will begin to build statistical models with simulated data. When analytic data sets become available, we will build and test an optimal black-box classifier and parsimonious diagnostic rules for detecting the clinical categories of interest. In the second year, we will finalize the analytical products and assist in the preparation of scholarly manuscripts and follow-up proposals.
11. Center for Advancing Multimorbidity Science: Profiling risk and symptom expression to develop customized therapies for adults with multiple chronic conditions (CAMS); NIH/NINR; Brown, Grant (Consultant), Rakel, Barbara (Co-Principal), Gardner, Sue (Co-Principal)
    - P20 NR018081

- Aug 13, 2018 - May 31, 2023
- Direct Cost: $249,383.00, 0% effort
- The Center aims to accelerate the realization of precision health by: a) broadening the conceptual model of multimorbidity science to include symptoms/ symptom clusters; b) training new investigators in multimorbidity science and advanced data analytics; and c) mentoring new investigators from pilot projects through the established programs of research in multimorbidity and precision science.

12. Epidemic Modeling Framework For Complex, Multi-Species Processes And The Impact Of Vertical And Vector Transmission: A Study Of Leishmaniasis In Peri-Urban Brazil; National Institutes of Health; Brown, Grant (Co-Investigator), Oleson, Jacob (Principal Investigator), Petersen, Christine (Principal Investigator)
    - R01 TW010500
    - Jul 20, 2016 - Jun 30, 2023
    - Amount: $2,499,599.00, Direct Cost: $353,007.00, 10% effort
    - Total Amount Requested: $2,499,599.00; Despite knowledge of vertical transmission for multiple infectious diseases for at least three-quarters of a century, we do not know how vertical transmission impacts the basic reproductive number (R0) of classically vector-borne infections. In addition, multi-species diseases are likely to persist through both vertical and horizontal transmission, and not enough is known about their collective impact on R0. Vertical transmission of VL was previously discounted, but this EEID collaborative group has demonstrated that vertical transmission maintains endemic canine VL within US hunting hounds (6). We use this unique cohort to measure the infective capacity of vertical transmission in VL. With understanding gained from this study, we will be able to interpret how vertical transmission and horizontal transmission impact R0 separately, and we will quantify their interactive effect on R0.
13. Youth as community mental health workers in humanitarian settings: A pilot test of the mechanisms of effect on their own well-being; National Institutes of Health; Brown, Grant (Co-Investigator), Afifi, Rima (Principal Investigator)
    - R34 MH121558
    - Sep 1, 2021 - Aug 31, 2024
    - Amount: $641,160.00, 5% effort
    - Results of this research will elucidate critical mechanisms through engagement of youth to support their community's mental health, enhance their own wellbeing; and inform research around humanitarian settings, mental health, and community health workers interventions.
14. The Development of Real Time Spoken and Written Word Recognition: Cognitive Bases of Language and Educational Outcomes; National Institutes of Health; Brown, Grant (Co-Investigator), McMurray, Robert (Principal Investigator)
    - R01 DC008089
    - Jan 8, 2007 - Nov 30, 2024
    - Amount: $7,293,244.00, 5% effort
    - This project is currently named “The Growing Words Project” and is premised on the idea that the cognitive processes by which children recognize both spoken and written words unfold over time, and that understanding differences in these processes (over development, or with language and reading disorders) can pinpoint precisely what is changing (or disordered) in the language and reading systems. The aims are: 1. To identify cognitive and developmental factors that shape automaticity and competition resolution during spoken and written word recognition, and the consequences of lexical processing differences for language and reading outcomes. 2. To understand how differences in the automaticity and resolution of lexical

processing relate to adjacent processing domains (decoding, semantics and word learning, executive function). 3. To determine the loci and extent of plasticity in inhibitory aspects of lexical processing. 4. To identify computational underpinnings of learning and development of lexical processing.

Presentations

Invited Lectures

Dec 2014 **Brown, G.** "Working with Epidemic Data" (Invited Presentation). Presented at Biostatistics Seminar, Cornell College, Mt. Vernon, Iowa.

Oct 19, 2015 **Brown, G. D.** Modeling of Infectious Diseases. Presented at EPID:6550 Epidemiology of Infectious Diseases, University of Iowa, Department of Epidemiology.

Jun 2016 **Brown, G. D.** Big Data? Infectious Disease Models. Presented at Big Data Camp, Department of Statistics, Iowa City.

Oct 14, 2016 **Brown, G. D.** Exploring Infectious Disease Modeling and Simulation. Presented at EPID:6550 Epidemiology of Infectious Diseases, University of Iowa, Department of Epidemiology.

Nov 2016 **Brown, G. D.** Approximate Bayesian Computation for Compartmental Epidemic Models. Emory University, Atlanta, Georgia.

Jul 2017 **Brown, G. D.** Big Data etc. Presented at Iowa Summer Institute for Biostatistics, University of Iowa.

Oct 19, 2017 **Brown, G. D.** Exploring Infectious Disease Modeling and Simulation. Presented at EPID:6550 Epidemiology of Infectious Diseases, University of Iowa, Department of Epidemiology.

Nov 2017 **Brown, G. D.** Predictive Modeling for First Year Enrollment. Presented at The Human Face of Big Data - First Year Seminar, University of Iowa.

Jul 2018 **Brown, G. D.** Big Data etc. Presented at Iowa Summer Institute for Biostatistics, University of Iowa.

Nov 2018 **Brown, G. D.** Predictive Modeling for First Year Enrollment. Presented at Human Side of Big Data - First Year Seminar, University of Iowa.

Jul 2019 **Brown, G. D.** Big Data etc. Presented at Iowa Summer Institute for Biostatistics, University of Iowa.

Oct 1, 2019 **Brown, G. D.** Exploring Infectious Disease Modeling and Simulation. Presented at EPID:6550 Epidemiology of Infectious Diseases, University of Iowa, Department of Epidemiology.

Jun 9, 2020 **Brown, G.**, Gomes-Solecki, M., Penney, J., Oleson, J. J. & Petersen, C. A. Epidemic Models of Borrelia burgdorferi for planning and evaluating interventions (plus a few notes about COVID in Iowa). Presented at Advancing knowledge about spatial modeling, infectious diseases, environment and health, The Fields Institute, Online.

Jul 2020 **Brown, G. D.** Big Data etc. Presented at Iowa Summer Institute for Biostatistics, University of Iowa.

Sep 29, 2020 **Brown, G. D.** Exploring Infectious Disease Modeling and Simulation. Presented at EPID:6550 Epidemiology of Infectious Diseases, University of Iowa, Department of Epidemiology.

Jun 15, 2021 **Brown, G.** Power, Sample Size, and Proposals. University of Iowa College of Nursing.

Jul 2021 **Brown, G. D.** Big Data etc. Presented at Iowa Summer Institute for Biostatistics, University of Iowa.

May 2023 **Brown, G. D.** Digging for Interesting Processes in Data. Presented at MSTP Lunch Presentation, University of Iowa Carver College of Medicine, Iowa City, Iowa.

Oral Presentations

2015 Zhang, Y. & **Brown, G.** "Adherence Trends of Four Chronic Disease Medication Classes among Beneficiaries in Two Medicare Part D Plans" (Invited Presentation). Presented at APhA Conference, American Pharmaceutical Assocation.

May 20, 2015 **Brown, G. D.** & Oleson, J. J. Spatiotemporal Epidemic Modeling with libSpatialSEIR Specification, Fitting, Selection, and Prediction. Presented at Geocomputation, Esri, Austin, Texas.

Feb 18, 2016 **Brown, G. D.** Approximate Bayesian Computation for Compartmental Epidemic Models. Presented at Colloquia Series, University of Iowa, Department of Statistics, Iowa City, Iowa.

Mar 8, 2016 **Brown, G. D.**, Porter, A. T. & Oleson, J. J. Approximate Bayesian Computation for Compartmental Epidemic Models - Methods and Software. Presented at ENAR, International Biometrics Society, Austin, Texas.

Aug 2016 **Brown, G. D.**, Porter, A. T. & Oleson, J. J. Approximate Bayesian Computation for Compartmental Epidemic Models - Methods and Software. Presented at JSM, IBS, Chicago, Illinois.

Oct 2016 Carnahan, R. & **Brown, G.** Evaluation of Educational Programs to Improve Medication Use in Nursing Home Residents." Department of Epidemiology Seminar. Department of Epidemiology, Iowa City, Iowa.

Mar 2, 2018 Grant, B. D. Working with Approximate Bayesian Computation in Stochastic Compartmental Models. Colorado School of MInes, Golden, Colorado.

Apr 2018 Nwoke, U., Ulin, B. & **Brown, G.** Partnerships in Technology, Predictive Indexes & Process to Influence Student Success & Retention: A Data Science Perspective. Presented at Higher Education Data Warehousing Forum, Corvallis, Oregon.

May 2018 **Brown, G. D.** Leveraging Institutional Data: Predicting Undergraduate Enrollment and Retention. Presented at TechForum 2018, University of Iowa.

Aug 16, 2018 **Brown, G. D.** An empirically adjusted approach to reproductive number estimation for stochastic compartmental models: A case study of two Ebola outbreaks. Presented at International Biometrics Society - Journal Club, IBS.

Jul 2019 **Brown, G. D.** Structure Penalized Trees for Ensemble Methods – Robust Prediction for Annual Outcome Data. Presented at JSM, ASA, Denver, Colorado.

Oct 22, 2020 **Brown, G. D.** Modelling the Enzootic Cycle of Borrelia burgdorferi for Planning and Evaluating Interventions. Department of Statistics and Actuarial Science, Iowa City, Iowa.

2021 Gilbert, P. A., Saathoff, E., **Brown, G. D.**, Kersten, S., Soweid, L., Skinstad, A. H., Mulia, N., Zemore, S. E. & Kaskutas, L. Digital Recovery Support Services during the COVID-19 Pandemic: Differences by Gender. Presented at American Public Health Association, APHA, Denver, Colorado.

Apr 21, 2021 **Brown, G.** Computational Strategies for fully Bayesian State-Space Models of Infectious Diseases. Colorado School of Public Health.

Apr 26, 2021 **Brown, G.** Computational Strategies for fully Bayesian State-Space Models of Infectious Diseases. Department of Biostatistics, University of Iowa.

Dec 2021 **Brown, G.** Computational Strategies for fully Bayesian State-Space Models of Infectious Diseases. Department of Geographical and Sustainability Sciences, University of Iowa.

Dec 2021 **Brown, G.** Computational Strategies for fully Bayesian State-Space Models of Infectious Diseases. University of Nebraska Medical Center, College of Public Health, Omaha, Nebraska.

2022 Ogwo, C., Levy, S., **Brown, G.**, Wehby, G. & Caplan, D. Prediction Of Caries In Young Adults Using Machine Learning Approach. Presented at AADOCR/CADR Annual Meeting & Exhibition, AADOCR/CADR, Atlanta, Georgia.

Feb 2022 **Brown, G.** Computational Strategies for fully Bayesian State-Space Models of Infectious Diseases. ASA North Texas Chapter Seminar Series, Dallas, Texas.

Aug 2023 **Brown, G. D.**, Seedorff, J., Ortega-Gutierrez, S., Mohr, N. & Farooqui, M. Bayesian Decision Analysis for Prehospital Stroke Triage. Presented at Joint Statistical Meetings, American Statistical Association, Ontario, Canada.

Posters

Jul 31, 2019 Ozanne, M. V., **Brown, G. D.** & Oleson, J. J. Bayesian Compartmental Model for an Infectious Disease with Multiple Infectious States. Presented at JSM, ASA, IBS, Denver, Colorado.

2022 Gilbert, P. A., Soweid, L., Evans, S., Holdefer, P. J., **Brown, G. D.**, Zemore, S. E., Kaskutas, L. A., Mulia, N. & Skinstad, A. H. Definitions of Recovery Vary by History of Alcohol Services Use: Findings from a National Sample of Adults with a Prior Alcohol Problem. Presented at American Public Health Association Meeting, Boston, Massachusetts.

2022 Holdefer, P. J., Evans, S., Hernandez, R., Soweid, L., **Brown, G. D.** & Gilbert, P. A. Racial and Ethnic Differences in Recovery Definitions: Finding from a National Sample of Adults with a Prior Alcohol Problem. Presented at American Public Health Association Meeting, Boston, Massachusetts.

2022 Hernandez, R., Holdefer, P. J., Evans, S., Soweid, L., Gilbert, P. A. & **Brown, G. D.** Treatment for Alcohol Use Disorder among Hispanics: Taking a Closer Look at Hispanic Cultural Variables. Presented at American Public Health Association, Boston, Massachusetts.

Demonstrations

Nov 2014 **Brown, G.** "Predicting Epidemic Behavior" (Online Invited Presentation). Presented at Project Lead the Way.

Seminars

Jan 2015 **Brown, G.** "An Empirically Adjusted Reproductive Number for Stochastic Compartmental Models" (Invited Presentation). Presented at Biostatistics Seminar (Faculty Recruit), Department of Biostatistics, University of Iowa, Iowa City, Iowa.

Oct 2015	**Brown, G.**, Carter, K. & Hovland, M. Predictive Modeling for First Year Enrollment. Presented at University of Iowa Institutional Data Users Group.
Nov 2016	**Brown, G. D.** & Dai, B. SAS and R: A practical comparison for predictive analytics. UI Business Intelligence Community, Iowa City, Iowa.

Other Presentations

Nov 2022	Ortega-Gutierrez, S., Mohr, N. & **Brown, G.** MAP-STROKE: Modeling Ambulance-based Prehospital Triage for Optimizing Stroke Recovery. Presented at Neurology Grand Rounds, Department of Neurology, University of Iowa Carver College of Medicine, Iowa City, Iowa.

Service

Professional Service

Professional Organizations

2015 - 2016	Statistical Graphics Section - Student Paper Competition, American Statistical Association (ASA), Reviewer
2022 - Present	International Anesthesia Research Society (IARS)

Journal Reviews/Referee Manuscripts

2015	Biostatistics, Reviewer, Publications
2018	Journal of the Royal Statistical Society, Reviewer
2018	International Conference on Information Systems - 2018, San Francisco, California, Reviewer
2016 - Present	PLOS Neglected Tropical Diseases, Reviewer, Publications
2018 - Present	American Journal of Tropical Medicine and Hygiene, Reviewer
2018 - Present	PLOS ONE, Reviewer
2019 - Present	Journal of Speech, Language, and Hearing Research, Reviewer
2019 - Present	Biostatistics
2020 - Present	Heliyon-D, Reviewer
2020 - Present	Spatial and Spatiotemporal Epidemiology, Reviewer
2020 - Present	Statistics in Medicine, Reviewer
2020 - Present	JAMA Network Open, Reviewer
2020 - Present	Journal of Applied Statistics, Reviewer
2020 - Present	Biostatistics & Epidemiology, Reviewer
2022 - Present	Statistical Methods & Applications, Reviewer
2022 - Present	Zoonoses, Reviewer
2022 - Present	Infectious Disease Modelling: Inquiry, Reviewer

Review Panels

2019	External Fellowship Review, Wellcome Trust, Member
2024 - Present	ZonMW Modeling for Pandemic Preparedness Grants, Reviewer

Other

2022 - Present	Anesthesia and Analgesia
2022 - Present	Spatial & Spatiotemporal Epidemiology, Editorial Board

Public or Community Service

State

Mar - Jul 2020	COVID Modelling Group, University of Iowa, Iowa City, Iowa, Expert Panel I worked with a team of researchers at the University of Iowa to provide COVID guidance to IDPH, producing a total of four white papers in the process.

University, College, Department Service

University

2011	Student Panel for Undergraduates, College of Public Health, University of Iowa, Biostatistics Student Representative
2012	Iowa Initiative Press Conference, Participant
2015	Biostatistics Student Representative, Legislative Breakfast, College of Public Health, University of Iowa, Member
2023 - 2024	University of Iowa Strategic Plan - Predictive Modeling Tactic, Member
2016 - Present	University of Iowa Business Intelligence Community (BIC) Steering Committee, Member
2017 - Present	University of Iowa Business Intelligence Community (BIC) Steering Committee, Member

College

2017 - 2019	CPH Statistical Methods Course Task Force, Member
2019	CPH Search Committee for Community and Behavioral Health DEO, Member
Aug 2022 - Jan 2023	CH MPH Program Core Faculty Advisory Group, Member
2021 - 2024	CPH Faculty Council, Member
2022 - 2024	CPH Faculty Council, Chair
2023 - 2024	MPH Program Implementation Team, Member
Aug 2015 - Present	CPH Undergraduate Steering Committee, Member
2016 - Present	CPH Undergraduate Program Committee, Member
Sep 2021 - Present	CPH Awards Committee (Faculty Representative), Member
Aug 2022 - Present	CPH Academic Misconduct Committee, Member

Department

2013 - 2015	Computation and Informatics Committee, Student Representative
Aug 2015 - Jan 2016	Advanced Statistical Computing Course Committee, Chair
Jul 1, 2016 - Jan 1, 2019	M.S. Core Exam Committee (Winter), Member
Sep 2021 - Aug 2022	M.S. Core Exam Committee Summer 2022, Member
Sep 2016 - Jan 2023	Biostatistics Admissions and Student Recruitment Committee, Member
Sep 2022 - Aug 2023	M.S. Core Exam Committee (Winter 2023), Member
Aug 2015 - Present	Biostatistics Admissions and Student Recruitment Committee (Co-Chair 2016-2017), Member
2016 - Present	Biostatistics Computing Committee, Member
2016 - Present	Biostatistics Web Based Instruction Resource Committee, Chair
Sep 2021 - Present	Biostatistics AI Certificate Task Force, Member

Media Contributions

Feb 2019	On-line, IOWANow
May 2020	TV, KGAN - EXCLUSIVE: Iowa's News Now speaks with UI research team member forecasting COVID-19 spread