

BINOD ACHARYA

CONTACT INFORMATION	Vickie and Jack Farber Research Center Wills Eye Hospital 840 Walnut St, Suite 1538, Philadelphia, PA 19107 USA	Phone: (225)456-6324 Email: bacharya@willseye.org https://binod-acharya.github.io
RESEARCH INTERESTS	Health disparities; Social epidemiology; Spatial statistics; Statistical modeling	
EDUCATION	M.S., Biostatistics Drexel University	2019 Philadelphia, PA
	M.S., Entomology (Minor: Applied Statistics) Louisiana State University	2017 Baton Rouge, LA
	B.Sc., Agriculture (Major: Agricultural Economics) Tribhuvan University	2011 Kritipur, Nepal
PROFESSIONAL EXPERIENCE	Data Scientist/Biostatistician , Wills Eye Hospital, Philadelphia Aug 2023 - Present <ul style="list-style-type: none">• Provide statistical and data science expertise for diverse clinical and public health research projects at the Vickie and Jack Farber Vision Research Center.• Collaborate with clinical investigators to:<ul style="list-style-type: none">– Refine research objectives and formulate hypotheses.– Design studies, develop algorithms, and perform statistical analyses– Generate reports, prepare manuscripts for scientific publications, participate in grant applications.• Support the Biostatistics Consulting Core by providing consultation on study design and statistical analyses for clinical researchers.• Current projects include:<ul style="list-style-type: none">– Estimating failure rates of corneal cross-linking in keratoconus patients.– Examining disparities in treatment initiation for neovascular AMD.– Investigating the relationship between sickle cell traits and glaucoma.– Understanding bilateral sequential blindness after glaucoma diagnosis.– Exploring the relationship between discrimination in medical settings and visit adherence among patients with diabetes. Data Analyst , Drexel University Apr 2019 - July 2023 <ul style="list-style-type: none">• Provided statistical expertise for research projects applying advanced methods, including Bayesian inference, survival, multilevel and generalized linear models.• Contributed to the SALURBAL project, focusing on urban health disparities in Latin America using small-area estimation.• Conducted social-epidemiological research on eviction, informal settlements, homelessness, and residential segregation.• Researched pandemic-driven health and behavioral disruptions, such as telehealth utilization, spending on food and alcohol, and vaccine lottery effectiveness.• Analyzed and developed visualizations for the 2019 project Reducing Cancer and Improving Health Outcomes in Philadelphia Neighborhoods.	

Research Assistant, Drexel University Oct 2017 - Mar 2019
 Managed and cleaned datasets (surveys, censuses, vital statistics, spatial) and supported manuscripts involving multilevel and spatial analysis using SAS, R, and ArcGIS.

Research Assistant, Louisiana State University Jan 2015 - May 2017
 Designed and conducted a laboratory research to identify the genetic basis of Bt protein resistance in fall armyworm and provided assistance in field research.

Program Associate, World Wildlife Fund Inc, Nepal Jun 2014 - Dec 2014
 Provided technical support to community leaders to protect ecologically fragile hills of Nepal by improved agricultural and livestock management practices.

Technical Officer, National Tea & Coffee Development Board, Nepal Apr 2012 - Jun 2014
 Provided technical support to stakeholders for improved coffee farming

PUBLICATIONS

Acharya, B., Hyman, L., Tomaiuolo, M., Zhang, Q., and Dunn, J.P. (2024). **Incidence and risk factors associated with prolonged undifferentiated postoperative pseudophakic iridocyclitis (PUPPI): an IRIS® Registry analysis.** *Ophthalmology* (Forthcoming)

Moore, K., Lazo, M., Ortigoza, A., Quistberg, D. A., Sanchez, B., **Acharya, B.**, Alfaro, T., Kroker-Lobos, M. F., De Menezes, M. C., Sarmiento, O. L., de Souza, A., Ferrer, C. P., Cardenas, L. M., Vasquez, A. H., Caiaffa, W., Diez Roux, A. V., and SALURBAL group. (2024). **Data Resource Profile: harmonized health survey data for 240 cities across 11 countries in Latin America: the SALURBAL project.** *International Journal of Epidemiology* (Forthcoming)

Tomaiuolo, M., Deaner, J., VanderBeek, B.L., **Acharya, B.**, Syed, Z., Zhang, Q., Schuman, J.S., and Hyman, L. (2024). **Do treatment patterns for endophthalmitis after cataract surgery follow the Endophthalmitis Vitrectomy Study recommendations? An Academy IRIS® Registry Analysis.** *Ophthalmology Retina*, 8(11), 1035-1043. [\[Link\]](#)

VanderBeek, B.L., Chen, Y., Tomaiuolo, M., Deaner, J., Syed, Z., **Acharya, B.**, Zhang, Q., Schuman, J.S., and Hyman, L. (2024). **Endophthalmitis rates and types of treatments after intraocular procedures.** *JAMA Ophthalmology*, 142(9), 827-834. [\[Link\]](#)

Leventer, I., Singh, H., Pashae, B., Raimondo, C.D., Khakh, C.K., Martin, J.L., **Acharya, B.**, Zhang, Q., Lally, S.E., and Shields, C.L. (2024). **Topical 5-fluorouracil 1% for moderate to extensive ocular surface squamous neoplasia in 73 consecutive patients: primary versus secondary treatment.** *Asia-Pacific Journal of Ophthalmology*, 100052. [\[Link\]](#)

Heffler, K. F., **Acharya, B.**, Subedi, K., and Bennett, D. S. (2024). **Early-life digital media experiences and development of atypical sensory processing.** *JAMA Pediatrics*, 178(3), 266-273. [\[Link\]](#)

Perner, M.S. , Trotta, A., Bilal, U., **Acharya, B.**, Quick, H., Natalia, P., Berazategui, R., Alazraqui, M., and Diez Roux, A.V. (2023). **Social inequalities and COVID-19 mortality between neighborhoods of Bariloche city, Argentina.** *International Journal for Equity in Health*, 22, 198. [\[Link\]](#)

Bhatta, D., Sizer, M.A., and **Acharya, B.** (2023). **Association between telehealth and missed appointments among patients experiencing behavioral health challenges.** *JAMA Network Open*, 6(7):e2324252. [\[Link\]](#)

Trotta, A., Bilal, U., **Acharya, B.**, Quick, H., Moore, K., Perner, S.M., Alazraqui, M., and Diez Roux, A.V. (2023). **Spatial inequities in life expectancy in small areas of Buenos Aires, Argentina 2015-2017.** *Journal of Urban Health*, 100, 577-590. [\[Link\]](#)

Guimarães, J.M.N., **Acharya, B.**, Moore, K., López-Olmedo, N., de Menezes, M.C., Stern, D., Friche, A.A.d.L., Wang, X., Delclòs-Alió, X., Rodriguez, D.A., Sarmiento, O.L., and de Oliveira, L. C.(2022). **City-level travel time and individual dietary consumption in Latin American cities: results from the SALURBAL Study.** *International Journal of Environmental Research and Public Health*, 19(20), 13443. [\[Link\]](#)

López, S.R., Tumas, N., Bilal, U., Moore, K., **Acharya, B.**, Quick, H., Quistberg, A.D., Acevedo, G.E., and Diez Roux, A.V. (2022). **Intraurban socioeconomic inequalities in life expectancy: a population based cross-sectional analysis in the city of Córdoba, Argentina (2015-2018).** *BMJ Open*, 12(9), e061277. [\[Link\]](#)

Acharya, B., Bhatta, D., and Dhakal, C. (2022). **The risk of eviction and the mental health outcomes among the US adults.** *Preventive Medicine Reports*, 29, 101981. [\[Link\]](#)

Dhakal, C., **Acharya, B.**, and Wang, S. (2022). **Food spending in the United States during the first year of the COVID-19 pandemic.** *Frontiers in Public Health*, 10, 912922. [\[Link\]](#)

Sizer, M.A., Bhatta, D., **Acharya, B.**, and Paudel, K.P. (2022). **Determinants of telehealth service use among mental health patients: a case of rural Louisiana.** *International Journal of Environmental Research and Public Health*, 19(11), 6930. [\[Link\]](#)

Acharya, B. and Dhakal, C. (2022). **Risky health behaviors during the COVID-19 pandemic: evidence from the expenditures on alcohol, non-alcoholic beverages, and tobacco products.** *PLoS ONE*, 17(5), e0268068. [\[Link\]](#)

Subedi, K., **Acharya, B.**, and Ghimire, S. (2022). **Factors associated with hospital readmission among patients experiencing homelessness.** *American Journal of Preventive Medicine*, 63(3), 362-370. [\[Link\]](#)

Acharya, B., Subedi, K., Acharya, P., and Ghimire, S. (2022). **Association between COVID-19 pandemic and the suicide rates in Nepal.** *PloS ONE*, 17(1), e0262958. [\[Link\]](#)

Acharya, B. and Dhakal, C. (2021). **Implementation of state vaccine incentive lottery programs and uptake of COVID-19 vaccinations in the United States.** *JAMA Network Open*, 4(12), e2138238. [\[Link\]](#)

Kaimal, G., Jones, J.P., Dieterich-Hartwell, R., **Acharya, B.**, and Wang, X. (2019). **Evaluation of long- and short-term art therapy interventions in an integrative care setting for military service members with post-traumatic stress**

and traumatic brain injury. *The Arts in Psychotherapy*, 62, 28-36. [\[Link\]](#)

Acharya, B., Head, G.P., Price, P.A., and Huang, F. (2017). **Fitness costs and inheritance of Cry2Ab2 resistance in *Spodoptera frugiperda* (JE Smith).** *Journal of Invertebrate Pathology*, 149, 8-14. [\[Link\]](#)

WORK IN
PROGRESS

Valentino, G., Auchincloss, A., **Acharya, B.**, Tumas, N., Carvalho, M., López, N., Kroker-Lobos, M. F., Ortigoza, A., and Nazzal, C. **Characterization of fruit and vegetable consumption by economic, sociodemographic, and biophysical contexts in 144 Latin American cities.** (Under Review)

Reddy, R., Shalaby, W.S., Sagar, S.J., Kumar, K., **Acharya, B.**, Zhang, Q., Schuman, J.S., Myers, J.S., and Huang, P. **Long-term visual field progression in patients with optic disc drusen with or without Glaucoma.** (Under Review)

Zhou, S., Zhang, M., Boal, N., Carrasco, J., Penne, R., Rabinowitz, M., Gunton, K.B., Sharpe, J., **Acharya, B.**, Zhang, Q., and Stefanyszyn, M. **Outcomes of Thyroid Eye Disease in patients with moderate-to-severe extraocular muscle involvement: a 10-year institutional experience.** (Manuscript in preparation)

Oliveira, T.L., Silva, U.M., **Acharya, B.**, Quick, H., Moore, K., Bilal, U., Pina, M.F., Skaba, D., Matos, V., Andrade, A.C.S., Diez Roux, A.V., Friche, A., and Caiaffa, W.T. **Life expectancy in small areas in six Brazilian state capitals, 2015-2019.** (Manuscript in preparation)

Lee, K.E., Lam, L., Thuma, T., **Acharya, B.**, Zhang, Q., Adhan, I., Minor, J., Hyman, L., and Gunton, K.B. **Clinical characteristics and surgical procedures in Sturge-Weber Syndrome-Associated Glaucoma (SWS-G): an Academy IRIS® Registry analysis.** (Manuscript in preparation)

REPORTS,
POSTERS,
ABSTRACTS

[Abstract] Valentino, G., Tumas, N., Carvalho, M., Acharya, B., and Nazzal, C. Social contextual factors and prevalence of daily fruit and vegetable intake in 137 Latin American cities. In 2024 World Public Health Nutrition Congress, June 2024.

[Abstract] Kolomeyer, N., Tomaiuolo, M., Zhang, Q., Acharya, B., Myers, J.S., and Hyman, L. Unilateral, bilateral, and sequential blindness in glaucoma patients in the IRIS registry. In 2024 Annual Meeting of American Glaucoma Society, Feb 2024.

[Abstract] Young, S., Acharya, B., George, B., and Hyman, L. Biomarker-based stress measures as risk factors and mediators of diabetic retinopathy racial disparities. In 2024 Annual Meeting of Association for Research in Vision and Ophthalmology, May 2024.

[Abstract] Perner, M.S. , Trotta, A., Bilal, U., Acharya, B., Quick, H., Natalia, P., Berazategui, R., Alazraqui, M., and Diez Roux, A.V. Social inequalities and COVID-19 mortality between neighborhoods of Bariloche city, Argentina. In 19th International Conference on Urban Health, Nov 2023.

[Poster] Bennett, D. S., Subedi, K., Acharya, B., and Heffler, K. F. Sensory profiles at 33 months as a function of early screen media exposure. In 2023 Society for Research in Child Development (SRCD) Meeting, March 2023.

[Poster] Acharya, B., Moore, K., Bilal, U., Quick, H., and Diez Roux, A.V. Small area estimation of life expectancy in cities in Argentina and Brazil: methodological approach. In 2022 UHC Day poster session, Drexel University.

[Poster] Subedi, K., Acharya, B., and Ghimire, S. Factors associated with hospital readmission among patients experiencing homelessness. In 2022 Annual meeting of Association for Clinical and Translational Statisticians.

[Abstract] Trotta, A., Bilal, U., Acharya, B., Quick, H., Moore, K., Perner, S.M., Alazraqui, M., and Diez Roux, A.V. Inequity and life expectancy in Buenos Aires, Argentina 2015-2017: A small area estimation approach. In 17th International Conference on Urban Health, July 2021.

[Academic Report] [The State of Cancer in Philadelphia, 2020.](#)

[Web Report] [Cancer in Philadelphia Neighborhoods, 2020.](#)

[Community Brief] Livengood, K., Diez Roux, A.V., Mullin, G., Acharya, B., Bettigole, C., Moore, K., Rollins, H., and Washington, R. Community Brief: Cancer in Philadelphia. Drexel University Urban Health Collaborative, Mar 2020.

[Poster] Acharya, B. Spatiotemporal analysis of overall health in the United States between 2010-2018 using Bayesian methods. In 2019 American Public Health Association Annual Meeting and Expo.

RESEARCH GRANT PARTICIPATION	National Institute of Health Clinical Trial Emulation in Ophthalmology: The Endophthalmitis Vitrectomy Study (Application Under Review) Hyman, L. and VanderBeek, B.L. (PIs), Acharya, B. (Co-PI)	
SERVICES	2024 - present	Research Instructor (Volunteer) Sidney Kimmel Medical College Thomas Jefferson University, Philadelphia, PA
	2023 - present	Academic Editor, <i>PLoS ONE</i>
	2021 - present	Ad-hoc journal referee for <i>American Journal of Epidemiology</i> , <i>JAMA Pediatrics</i> , <i>Scientific Reports</i> , <i>Journal of Clinical Oncology</i> , <i>Social Science and Medicine</i> , <i>JAMA Network Open</i> , <i>Preventive Medicine</i> , <i>Frontiers in Public Health</i> , <i>Frontiers of Medicine</i> , <i>Economic Modeling</i> , <i>PLoS ONE</i> , <i>Applied Clinical Informatics</i> , <i>Digital Health</i> , <i>International Journal of Health Promotion and Education</i> , <i>Health Psychology and Behavioral Medicine</i> , <i>American Journal of Ophthalmology</i> , <i>BMJ Open Ophthalmology</i> , etc.
AWARDS	2019	Delta Omega student poster award
	2017-2019	Dean's scholarship Dornsife School of Public Health, Drexel University, Philadelphia, PA
SKILLS	Computer Languages/Software:	R, SAS, ArcGIS, WinBUGS, RMarkdown, Quarto, Python, Stata, SPSS, SQL, JAGS, L ^A T _E X, Stan, Github
	Human Languages:	English, Nepali, Hindi
	Certification:	Data Scientist with R, Datacamp SAS Certified Clinical Trials Programmer SAS Certified Base Programmer for SAS 9