BINOD ACHARYA

3600 Market St ⋄ Drexel University ⋄ Phialdephia, PA 19104

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PROFILE SUMMARY

I have >4 years of experience in statistical modeling and programming related to public health projects in the university setting. I am particularly interested in research related to health disparities, global health, health policy, and spatial statistics.

EDUCATION

M.S., Biostatistics (GPA: 4.0) — 2019
Drexel University — Philadelphia, PA

M.S., Entomology (Minor: Applied Statistics) — 2017
Louisiana State University — Baton Rouge, LA

EMPLOYMENT

Data Analyst — Apr 2019 - present
Urban Health Collaborative
Dornsife School of Public Health, Drexel University — Philadelphia, PA

Worked for the project **Reducing cancer and improving health outcomes in Philadelphia neighborhoods**, where I was responsible for data analysis, creating visualizations, and writing methods. The 2020 report highlights racial and spatial disparities in Cancer burden in Philadelphia.

Performed Bayesian small-area estimation to study disparities in life expectancy and their determinants in Argentinian and Brazilian cities.

Performed analysis in understanding the role of residential segregation in the non-communicable disease mortality disparities in Brazilian cities.

Performed analysis related to intra-urban disparities in under-five mortality in cities of Argentina and the role of contextual factors.

Performed analysis to study the association between travel time and dietary intake in Latin American cities.

Studied the food, alcohol, and smoking spending habits of US consumers following the COVID-19 pandemic.

Worked in calculating mortality rates and life expectancy in major US cities for Big City Health Coalition project.

Studied the effectiveness of state-level COVID-19 vaccine lotteries in uptake of vaccination rate.

Worked in the census and survey data harmonization and modeling from many Latin American countries for the **SALURBAL** project.

Graduate Research Assistant — Oct 2017 - Mar 2019
Dornsife School of Public Health, Drexel University — Philadelphia, PA

Developed computer program to code international classification of diseases (ICD) and applied it to study the historical mortality data in Pennsylvania to see whether areas exposed to per- and polyfluoroalkyl substances (PFAS) have higher cancer mortalities.

Conducted Bayesian analysis of spatiotemporal patterns of overall health outcomes in the US using County health rankings data, 2010-2018; studied association between asthma severity and neighborhood-level socioeconomic and environmental factors in Philadelphia.

Involved in several data management projects such as the development of a historical database of major air pollutants for the census tracts in Pennsylvania; normalized difference vegetation index (NDVI) database for Philadelphia metropolitan area; spatial datasets for land use, traffic density, etc.

Briefly worked for Biostatistics service center (BSC) at Drexel University in the project evaluating art therapy interventions for military service members with post-traumatic stress and traumatic brain injury.

Graduate Research Assistant   Jan 2015 - May 2017
Department of Entomology, Louisiana State University   Baton Rouge, LA

Conducted laboratory research to identify the genetic basis of Bt protein resistance in fall armyworm.

Experimental design of the research, data analysis, thesis, and manuscript writing.

Program Associate   Jun 2014 – Dec 2014
World Wildlife Fund Inc, Nepal   Kathmandu, Nepal

Provided technical support on a sustainable land management project in the ecologically fragile hilly region of Nepal in collaboration with community leaders and governmental agencies.

PEER-REVIEWED PUBLICATIONS

Published

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., de Oliveira Cardoso, L. (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.

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.

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.

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

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.

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.

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.

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.

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-e2138238.

Acharya, B. and Tabb, L. (2021). **Spatiotemporal analysis of overall health in the United States between 2010 and 2018**. *Cureus*, 13(9).

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.

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.

Work-in-Progress

Trotta, A., Bilal, U., **Acharya, B.**, Quick, H., Moore, K., Perner, M., Alazraqui, M. and Diez Roux, A.V. **Spatial inequities in life expectancy in small areas of Buenos Aires, Argentina 2015-2017** (Under review).

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 preparation)

REPORTS AND POSTERS

[Poster] Acharya, B., Moore, K., Bilal, U., Quick, H., 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., Ghimire, S. Factors Associated with Hospital Readmission Among Patients Experiencing Homelessness. In 2022 annual meeting of Association for Clinical and Translational Statisticians.

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

[Web Report] Cancer in Philadelphia Neighborhoods, 2020.

[Community Brief] Livengood, K., Diez Roux. A., Mullin, G., Acharya, B., Bettigole. C., Moore, K., Rollins, H., 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 APHA Annual Meeting and Expo.

[Poster] Acharya, B., Head, G. P., Price, P. A., and Huang, F. (2016, September). Lack of fitness costs associated with Bacillus thuringiensis Cry2Ab2 resistance in the fall armyworm, *Spodoptera frugiperda* (JE Smith). In 2016 International Congress of Entomology.

AWARDS

Delta Omega student poster award, 2019
Dean's Scholarship, Drexel University, 2017-2019

SERVICE TO PROFESSION

Ad-hoc journal referee (2021-present)

JAMA Network Open (7)	PLOS ONE (8)
American Journal of Epidemiology (1)	JAMA Pediatrics (1)
PLOS Global Public Health (4)	Journal of Clinical Oncology (1)
International Journal of Environmental Research and Public Health (1)	Digital Health (1)
Frontiers in Public Health (2)	Frontiers of Medicine (1)
Tobacco Induced Diseases (1)	Applied Clinical Informatics (1)
São Paulo Medical Journal (1)	BMJ Open Ophthalmology (1)
SAGE Open Nursing (1)	International Journal of Health Promotion and Education (1)
International Journal of Qualitative Studies in Health and Well-being (1)	Epilepsia (1)
Health Psychology and Behavioral Medicine (1)	Healthcare (1)

GRADUATE COURSEWORK

Statistical Inference I	Statistical Inference II
Statistical Computing I	Advanced Statistical Computing
Linear Statistical Models	Applied Bayesian Analysis
Design and Analysis of Clinical Trials	GIS for Public Health
Generalized Linear Models	Longitudinal Data Analysis
Machine Learning	Survival Data Analysis
Statistical Techniques I	Statistical Techniques II
Regression Analysis	Categorical Data Analysis

SKILLS

Computer Languages and Software: Expert: R, SAS, ArcGIS, WinBUGS, RMarkdown, Quarto
Intermediate: Python, Stata, SQL, JAGS, LaTeX, 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

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Public Health Association (APHA)	2020 - present
Statistics Without Borders (SWB)	2020 - present