

CURRICULUM VITAE

1. PERSONAL INFORMATION

Name: Lester M. Arguelles, MS, PHD
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Citizenship: United States
Date of Birth: 22 May 1966
Place of Birth: IloIlo City, IloIlo, Philippines

2. FACULTY APPOINTMENTS

09/2020–present Clinical Assistant Professor, University of Illinois at Chicago, School of Public Health, Department of Epidemiology and Biostatistics
01/2019–09/2020 Adjunct Assistant Professor, University of Illinois at Chicago, School of Public Health, Department of Epidemiology and Biostatistics
09/2011–06/2013 Research Assistant Professor, Northwestern University Feinberg School of Medicine, Department of Preventive Medicine
09/2010–09/2011 Research Assistant Professor, Northwestern University Feinberg School of Medicine, Department of Pediatrics, and The Mary Ann & J. Milburn Smith Child Health Research Program, Children’s Memorial Hospital

3. TEACHING

Course Instructor, University of Illinois at Chicago

2019-present

Public Health and the Study of Disease and Epidemics (PUBH 120). The introduction to Epidemiology in the undergraduate public health program at the University of Illinois at Chicago. The course broadly covers a history of Epidemiology as the public health science, the fundamental study designs, and probability and statistics as used in the study of the distribution and determinants of health states in the population.

Analytic and Research Methods in Public Health (IPHS 402). This course introduces students to the main analytic and research methods used to carry out the core functions of evidence-based public health. Students are provided an overview of major data sources (disease registries, administrative systems, national surveys, etc.) and approaches to data collection and analysis, both quantitative and qualitative. By the end of the course, students will also be prepared to take intermediate-level analytic methods courses, such as EPID 404 and BSTT 401.

Intermediate Epidemiology (EPID 404). This course introduces the analysis of real data for each of the fundamental Epidemiologic designs: Cross-sectional, Case-Control, and Cohort studies, with a focus on the application and interpretation of stratified analysis in contingency tables and logistic regression. SAS and was the software used for analysis projects, which comprised different datasets for logistic regression.

Applied Methods for the Analysis of Epidemiologic Data (EPID 594). The main objective of this course is for students to learn how to apply quantitative methods to various types of epidemiologic data, including case-control, cohort, and multi-level data and interpret the findings from these applications. At the conclusion of the course a student should be able to independently analyze and interpret the findings from a complex epidemiologic data set. The course also provides students with an understanding of the historical development of select important epidemiologic methods and statistics.

Course Instructor, Northwestern University Feinberg School of Medicine

2011–2012 | **Intermediate Epidemiology.** This course introduced the analysis of real data for each of the fundamental Epidemiologic designs: Cross-sectional, Case-Control, and Cohort studies. SAS and STATA were the software used for analysis projects, which comprised different datasets for logistic regression and survival analysis.

Teaching assistant at the University of Illinois at Chicago, School of Public Health

1995–1996 | **Biostatistics I & II** was a sequence required for epidemiology majors. Biostatistics I covered descriptive statistics, basic probability concepts, one- and two-sample statistical inference, analysis of variance, and simple linear regression, and students were introduced to statistical software. Biostatistics II covered simple and multiple linear regression, stepwise regression, multifactor analysis of variance and covariance, non-parametric methods, logistic regression, analysis of categorical data, with an extensive use of computer software.

1998–2000 | **Sampling and Estimation Methods Applied to Public Health** provided a comprehensive overview of current methods and issues in survey sample design and associated estimation procedures.

Introduction to Epidemiology: Principles and Methods which covered descriptive and analytic epidemiology, and determinants of health and disease in populations. Measures of occurrence, association and statistical testing will be addressed, along with study designs, bias and confounding.

2000–2004 | **Advanced Quantitative Methods in Epidemiology.** This course was required of all PhD level Epidemiology students and is what I considered to be the course that really solidified the student “toolkit” of statistical analysis. It covered more advanced quantitative methods, such as mixed modeling as it pertained to the analysis of case-control studies, cohort studies and meta-analysis, and more sophisticated designs such as nested case-control, twin and family designs were examined.

4. PROFESSIONAL EXPERIENCE

07/2014–09/2018 | Data Science Consultant, Health Care Service Corporation, Clinical Analytics, Financial Services Division (FSD). My principle work has been to manage the data and generate monthly cost avoidance reports for the Specialty Review Unit (SRU). The SRU reviews prescriptions for over 150 specialty drugs to ensure that they are being prescribed according to the medical evidence. These data are initially collected by the SRU, but require joining to the Enterprise data warehouse to assign clients and market segment. As of 06/2018, costs avoided due to the SRU reached over \$350 million for the book of business in this year alone, and cost avoidance projections show a strong positive trend. My other major project was to refresh the NDC analytic tool used to support NDC pricing initiatives for each plan. This analytic tool estimated potential savings specific to each plan based on how reimbursement rates are assigned to the wholesale acquisition cost, average wholesale price, and the maximum allowed cost.

09/2013–06/2014 | Senior Mathematical Modeler, Health Care Service Corporation, Clinical Analytics, Enterprise Medical Policy and Clinical Operations (EMPCO). Working with pharmacy claims data, analytic work included analyzing the effect of quantity limits on drug spend, and estimating spend and utilization for infusion drugs, which informed network reimbursement strategies by comparing actual spend against hypothetical spend under various pharmacy fee schedules. More statistically sophisticated work involved a propensity score matched study to compare medical spend between those engaged in our pharmacy benefit management program and those not. Other projects included generating a monthly savings report by our specialty drug review unit.

1997–2000 | Senior Analyst, GD Searle Pharmaceuticals, Pharmacoeconomics group. Conducted statistical analysis regarding pharmaco-epidemiologic components of clinical trials among various products developed at Searle, primarily, the drug Celebrex, COX-2 selective nonsteroidal anti-inflammatory drug.

5. EDUCATION

Date	Institution	Degree	Discipline
1998–2005	University of Illinois at Chicago, School of Public Health	PhD	Epidemiology
1994–1996	University of Illinois at Chicago, School of Public Health	MS	Biostatistics
1984–1988	University of Illinois at Urbana-Champaign	BA	Anthropology

6. GRADUATE & POST DOCTORAL RESEARCH TRAINING

Date	Institution	Title	Field of Research
2010–2013	Northwestern University Feinberg School of Medicine	Research Assistant Professor	Molecular Epidemiology
2007–2010	Smith Child Health Research Program, Lurie Children’s Hospital of Chicago	Postdoctoral Fellow	Molecular Epidemiology
2005–2007	University of Illinois at Chicago, School of Public Health	Postdoctoral Fellow	Molecular Epidemiology
2000–2005	University of Washington, University of Washington Twin Registry	Statistical Consultant	Twin Epidemiology
2001–2002	University at Illinois at Chicago, School of Public Health, Black Elderly Twin Study	Research Assistant	Twin Epidemiology
1998–2004	University of Illinois at Chicago, School of Public Health	Teaching Assistant	Epidemiology

Computer Skills

Database Languages: SQL

Statistical Software: SAS, R, PEPI, EPIINFO, Mx (for Twin and Family data)

Word Processing: Microsoft Word

Spread Sheet Application: Excel, PowerPoint

7. AWARDS

09/2010–09/2012 KL2 grant recipient, Northwestern University, Clinical and Translational Sciences Institute

8. PROFESSIONAL SOCIETY MEMBERSHIPS

2009–present Society for Epidemiologic Research

9. PROFESSIONAL and SCIENTIFIC SERVICE

2010–2013 Journal reviewer, American Journal of Nephrology and Nutrition, Metabolism and Cardiovascular Diseases

2011–2013 Journal reviewer, Epidemiology

10. Committees

Northwestern University Feinberg School of Medicine

05/2011 – 06/2013 Health Services Integrated Program working group, Institute for Public Health and Medicine

09/2011 – 06/2013 Curriculum committee, Master of Epidemiology and Biostatistics Program, Department of Preventive Medicine

09/2012 – 06/2013 Administrative Committee, Program in Public Health, Department of Preventive Medicine

09/2011 – 11/2012 Translational Research Incubator Program, Department of Preventive Medicine, Department of Preventive Medicine

09/2019 – present Curriculum committee, University of Illinois at Chicago, School of Public Health

11. RESEARCH SUPPORT

R01 HL092140–04 (PI: Carnethon, M)

07/01/09 – 06/30/13

NHLBI

Autonomic, Endothelial and Inflammatory Correlates of Sleep Duration

The primary aims of this proposal are to: 1) Describe and compare the distribution of objectively-measured sleep duration by age, sex, and race/ethnicity and identify cutpoints along the distribution associated with a higher prevalence of metabolic syndrome and its components. 2) Test the association of objectively-measured sleep duration with measures of autonomic function, biomarkers of endothelial function, adipocytokines that represent insulin resistance and inflammation.

Role: Senior research associate

Completed Support

KL2 1KL2RR025740-03 (PI: Greenland, P)

09/2010-09/2012

This study investigates the role of vitamin D in relation to various cardiovascular disease risk factors in children.

Role: KL2 Scholar

R01 HD049059 (PI: Wang, X)

1/1/05 – 12/31/10

NICHHD

Epidemiology of Metabolic Syndrome in Children

This study is to investigate childhood precursors of metabolic syndrome among a large twin cohort.

Role: Senior research associate

R01 HL0864619 (PI: Wang, X)

9/15/06 – 7/31/11

NHLBI

Sleep and Adiposity: A Prospective Twin Study

The major goal of this study is to investigate epidemiology and biological mechanisms that link sleep with overweight and obesity among a large twin cohort.

Role: Senior research associate

R01 AG032227 (PI: Xu, X)

9/30/07 – 8/31/11

NIA

Establishing the Precursors of Osteoporosis in Children

The major goal of this study is to investigate precursors of osteoporosis in a large prospective cohort of children, adolescents and young adults.

Role: Senior research associate

12. PUBLICATIONS

Original research articles

1. Race, obesity, and the renin-angiotensin-aldosterone system: treatment response in children with primary hypertension. South, A. M., **Arguelles, L.**, Finer, G. & Langman, C.B. Apr 14 2017 (Accepted/In press) In : *Pediatric Nephrology*. p. 1-10
2. Adiposity trajectory and its associations with plasma adipokine levels in children and adolescents - A prospective cohort study. Li, S., Liu, R., **Arguelles, L.**, Wang, G., Zhang, J., Shen, X. & Wang, X. Feb 1 2016 In : *Obesity*. 24, 2, p. 408-416
3. Hyperglycemia and insulin resistance in cardiac arrest patients treated with moderate hypothermia. Ettleson, M. D., Arguello, V., Wallia, A., **Arguelles, L.**, Bernstein, R. A. & Molitch, M. E. Jan 1 2014 In : *Journal of Clinical Endocrinology and Metabolism*. 99, 10, p. E2010-E2014
4. Longitudinal trajectory of vitamin D status from birth to early childhood in The development of food sensitization. Liu, X., **Arguelles, L.**, Zhou, Y., Wang, G., Chen, Q., Tsai, H. J., Hong, X., Liu, R., Price, H. E., Pearson, C., Apollon, S., Cruz, N., Schleimer, R., Langman, C. B., Pongratic, J. A. & Wang, X. Sep 1 2013 In : *Pediatric Research*. 74, 3, p. 321-326
5. Sleep, School Performance, and a School-Based Intervention among School-Aged Children: A Sleep Series Study in China. Li, S., **Arguelles, L.**, Jiang, F., Chen, W., Jin, X., Yan, C., Tian, Y., Hong, X., Qian, C., Zhang, J., Wang, X. & Shen, X. *PLoS One*. 8, 7, e67928 Jul 10 2013
6. A population-based twin study on sleep duration and body composition. Liu, R., Liu, X., **Arguelles, L.** M., Patwari, P. P., Zee, P. C., Chervin, R. D., Ouyang, F., Christoffel, K. K., Zhang, S., Hong, X., Wang, G., Xu, X. & Wang, X *Obesity*. 20, 1, p. 192-199. Jan 1 2012

7. Association of adiposity trajectories with insulin sensitivity and glycemic deterioration: a longitudinal study of rural Chinese twin adults. Liu R, Brickman WJ, Christoffel KK, Liu X, Wang G, **Arguelles L**, Zhang S, Zimmerman D, Wang B, Xu X, Li Z, Xing H, Wang X. *Diabetes Care*. 2012 Jul;35(7):1506–12
8. Cord blood 8-isoprostane in the preterm infant. Mestan K, Matoba N, **Arguelles L**, Harvey C, Ernst LM, Farrow K, Wang X. *Early Hum Dev*. 2012 Aug;88(8):683–9
9. Maternal smoking during pregnancy, prematurity and recurrent wheezing in early childhood. Robison RG, Kumar R, **Arguelles LM**, Hong X, Wang G, Apollon S, Bonzagni A, Ortiz K, Pearson C, Pongracic JA, Wang X. *Pediatr Pulmonol*. 2012 Jul;47(7):666–73
10. Tracking blood glucose and predicting prediabetes in Chinese children and adolescents: a prospective twin study. Wang G, **Arguelles L**, Liu R, Zhang S, Brickman WJ, Hong X, Tsai HJ, Wang B, Xing H, Li Z, Xu X, Wang X. *PLoS One*. 2011;6(12):e28573.
11. Liu R, Zee PC, Chervin RD, **Arguelles LM**, Birne J, Zhang S, Christoffel KK, Brickman WJ, Zimmerman D, Wang B, Wang G, Xu X, Wang X. Short sleep duration is associated with insulin resistance independent of adiposity in Chinese adult twins. *Sleep Med*. 2011 Oct;12(9):914–9
12. Liu R, Liu X, **Arguelles LM**, Patwari PP, Zee PC, Chervin RD, Ouyang F, Christoffel KK, Zhang S, Hong X, Wang G, Xu X, Wang X. A population-based twin study on sleep duration and body composition. *Obesity (Silver Spring)*. 2012 Jan;20(1):192–9
13. Wang G, Christoffel KK, Brickman WJ, Hong X, **Arguelles L**, Zhang S, Wang B, Li Z, Xing H, Tang G, Zimmerman D, Xu X, Wang X. C-reactive protein in adolescent twins: patterns and relationship to adiposity. *J Clin Endocrinol Metab*. 2011 Oct;96(10):3226–33
14. Liu X, Wang G, Hong X, Wang D, Tsai HJ, Zhang S, **Arguelles L**, Kumar R, Wang H, Liu R, Zhou Y, Pearson C, Ortiz K, Schleimer R, Holt PG, Pongracic J, Price HE, Langman C, Wang X. Gene-vitamin D interactions on food sensitization: a prospective birth cohort study. *Allergy*. 2011 Nov;66(11):1442–8
15. Hong X, Wang G, Liu X, Kumar R, Tsai HJ, **Arguelles L**, Hao K, Pearson C, Ortiz K, Bonzagni A, Apollon S, Fu L, Caruso D, Pongracic JA, Schleimer R, Holt PG, Bauchner H, Wang X. Gene polymorphisms, breast-feeding, and development of food sensitization in early childhood. *J Allergy Clin Immunol*. 2011 Aug;128(2):374–81
16. Hong X, Tsai HJ, Liu X, **Arguelles L**, Kumar R, Wang G, Kuptsova-Clarkson N, Pearson C, Ortiz K, Bonzagni A, Apollon S, Fu L, Pongracic JA, Schleimer R, Holt PG, Bauchner H, Wang X. Does genetic regulation of IgE begin in utero? Evidence from T(H)1/T(H)2 gene polymorphisms and cord blood total IgE. *J Allergy Clin Immunol*. 2010 Nov;126(5):1059–67, 1067
17. Kumar R, Story RE, Pongracic JA, Hong X, **Arguelles L**, Wang G, Kuptsova-Clarkson N, Pearson C, Ortiz K, Bonzagni A, Apollon S, Fu L, Bauchner H, Wang X. Maternal Pre-Pregnancy Obesity and Recurrent Wheezing in Early Childhood. *Pediatr Allergy Immunol Pulmonol*. 2010 Sep;23(3):183–190
18. Kumar R, Caruso DM, **Arguelles L**, Kim JS, Schroeder A, Rowland B, Meyer KE, Schwarz KE, Birne JS, Ouyang F, Pongracic JA, Wang X. Early Life Eczema, Food Introduction, and Risk of Food Allergy in Children. *Pediatr Allergy Immunol Pulmonol*. 2010 Sep;23(3):175–182.
19. Furner SE, Wallace K, **Arguelles L**, Miles T, Goldberg J. Factors associated with self-reported health: a twin study of older African American women. *J Women Aging*. 2010 Apr;22(2):83–93
20. Hong X, **Arguelles LM**, Tsai HJ, Zhang S, Wang G, Wang B, Liu X, Li Z, Tang G, Xing H, Xu X, Wang X. Plasma adipokines, bone mass, and hip geometry in rural Chinese adolescents. *J Clin Endocrinol Metab*. 2010 Apr;95(4):1644–52

21. Hong X, **Arguelles LM**, Liu X, Tsai HJ, Hsu YH, Wang B, Zhang S, Li Z, Tang G, Liu X, Yang J, Xu X, Langman C, Wang X. Percent fat mass is inversely associated with bone mass and hip geometry in rural Chinese adolescents. *J Bone Miner Res*. 2010 Jan 29. 2010 Jul;25(7):1544–54
22. Ouyang F, Christoffel KK, Brickman WJ, Zimmerman D, Wang B, Xing H, Zhang S, **Arguelles LM**, Wang G, Liu R, Xu X, Wang X. Adiposity is inversely related to insulin sensitivity in relatively lean Chinese adolescents: a population-based twin study. *Am J Clin Nutr*. 2010 Mar;91(3):662–71
23. **Arguelles LM**, Liu X, Venners S A, Ronnenberg AG, Li Z, Yang F, Yang J, Xu X, Wang X. Serum Folate and DDT Isomers and Metabolites are Inversely Associated in Chinese Women: A Cross-Sectional Analysis. *J Am Coll Nutr*. 2009 Aug;28(4):380–7
24. **Arguelles LM**, Langman CB, Ariza AJ, Ali FN, Dilley K, Price H, Liu X, Zhang S, Hong X, Wang B, Xing H, Li Z, Liu X, Zhang W, Xu X, Wang X. Heritability and environmental factors affecting vitamin D status in rural Chinese adolescent twins. *J Clin Endocrinol Metab*. 2009 Sep;94(9):3273–81.
25. Ali FN, **Arguelles LM**, Langman CB, Price HE. Vitamin D deficiency in children with chronic kidney disease: uncovering an epidemic. *Pediatrics*. 2009 Mar;123(3):791–6.
26. Hong X, Hsu YH, Terwedow H, **Arguelles LM**, Tang G, Liu X, Zhang S, Xu X, Xu X. CYP19A1 polymorphisms are associated with bone mineral density in Chinese men. *Hum Genet*. 2007 May;121(3–4):491–500.
27. On the performance of bias-reduction techniques for variance estimation in approximate Bayesian bootstrap imputation. Demirtas, H., **Arguelles, L. M.**, Chung, H. & Hedeker, D. (2007). *Computational Statistics and Data Analysis*, Volume 51, Issue 8, 4064-4068.
28. Body mass index, percent body fat, and bone mass in a cohort of Chinese twins aged 6 to 18 years. **Arguelles, L. M.**, Wang, X., Demirtas, H., Yang, J., Li, Z., Wang, L., Liu, X., Tang, G., Xing, H. & Xu, X. (2007). *Archives of Osteoporosis*, Volume 2, No 1-2, 7-20.
29. Furner SE, Wallace K, **Arguelles L**, Miles T, Goldberg J. Twin study of depressive symptoms among older african-american women. *J Gerontol B Psychol Sci Soc Sci*. 2006 Nov;61(6):P355–61.
30. Ouyang F, Wang X, **Arguelles L**, Rosul LL, Venners SA, Chen C, Hsu YH, Terwedow H, Wu D, Tang G, Yang J, Xing H, Zang T, Wang B, Xu X. Menstrual cycle lengths and bone mineral density: a cross-sectional, population-based study in rural Chinese women ages 30–49 years. *Osteoporos Int*. 2007 Feb;18(2):221–33.
31. Watson NF, Goldberg J, **Arguelles L**, Buchwald D. Genetic and environmental influences on insomnia, daytime sleepiness, and obesity in twins. *Sleep*. 2006 May 1;29(5):645–9.
32. **Arguelles LM**, Afari N, Buchwald DS, Clauw DJ, Furner S, Goldberg J. A twin study of posttraumatic stress disorder symptoms and chronic widespread pain. *Pain*. 2006 Sep;124(1–2):150–7
33. Garroutte EM, Sarkisian N, **Arguelles L**, Goldberg J, Buchwald D. Cultural identities and perceptions of health among health care providers and older American Indians. *J Gen Intern Med*. 2006 Feb;21(2):111–6.
34. Roy-Byrne P, **Arguelles L**, Vitek M, Goldberg J, Keane T, True W, Pitman R. Persistence and change of PTSD symptomatology: A longitudinal co-twin control analysis of the Vietnam Era Twin Registry. *Social Psychiatry and Psychiatric Epidemiology*. 2004 Sep; 39(9) 681 – 685
35. Mahurin RK, Claypoole KH, Goldberg JH, **Arguelles L**, Ashton S, Buchwald D. Cognitive processing in monozygotic twins discordant for chronic fatigue syndrome. *Neuropsychology*. 2004 Apr;18(2):232–9.
36. Furner SE, Giloth BE, **Arguelles L**, Miles TP, Goldberg JH. A co-twin control study of physical function in elderly African America women. *J Aging Health*. 2004 Feb;16(1):28–43.

37. Watson NF, Kapur V, **Arguelles LM**, Goldberg J, Schmidt DF, Armitage R, Buchwald D. Comparison of subjective and objective measures of insomnia in monozygotic twins discordant for chronic fatigue syndrome. *Sleep*. 2003 May 1;26(3):324–8.
38. Aaron LA, **Arguelles LM**, Ashton S, Belcourt M, Herrell R, Goldberg J, Smith WR, Buchwald D. Health and functional status of twins with chronic regional and widespread pain. *J Rheumatol*. 2002 Nov;29(11):2426–34

Book Chapter

1. **Arguelles LM**, Ouyang F, Wang X. Bone Growth in Rural Chinese Males and Females Aged 6 to 17 Years: A Prospective Twin Study. *The Handbook of Growth and Growth Monitoring in Health and Disease* 2012.