Anna Loraine A. Escobedo, PhD, MPH

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APPOINTMENT
Postdoctoral Scholar
Spatial Sciences Institute
USC Dornsife College of Letters, Arts and Sciences

PERSONAL STATEMENT
An epidemiologist by training, I am interested in examing the role of place in health and health outcomes, identifying high-risk neighborhoods, and assessing the cost-effectiveness of health programs that focus limited resources to underserved neighborhood. Using population-based cancer registry data, I have explored these topics in breast cancer, lung cancer, and melanoma with the overarching goal of providing a community translational approach to cancer control which is currently lacking. My current appointment at the USC Spatial Sciences Institute provides an opportunity to further develop interdisciplinary collaborations among the nation's top experts in Geographic Information Science, Preventive Medicine, Sociology, Health Policy and Economics. I have expertise in managing and analyzing large population-based data (i.e. cancer surveillance data), linking various sources of geospatial data (i.e. cancer surveillance data, Census, California birth registry, National ParcelMap Data Portal, Digital Elevation Model), and collaborating with Public Health experts to translate evidence-based findings to real-world application in cancer control and prevention.

EDUCATION
University of Southern California
Keck School of Medicine
Los Angeles, California, United States

> Doctor of Philosophy, Epidemiology (2010-2015)
> Master of Public Health, Epidemiology and Biostatistics track (2006-2008)
> Bachelor of Science, Health Promotion and Disease Prevention (2004-2006)

RESEARCH AND TEACHING INTERESTS

cancer control, cancer prevention, cancer epidemiology, spatial epidemiology, melanoma, colorectal cancer, breast cancer, lung cancer, health disparity, cluster analysis, geospatial analysis, access-to-care, racial/ethnic minority, elderly population, geoconfidentiality, spatial data

PUBLICATIONS

Leavitt ER, Kessler S, Pun S, Gil T, **Escobedo LA**, Cockburn M, Sutton A, Crew A. (2016). Teledermatology as a tool to improve access to care for medically underserved populations: a retrospective descriptive study. Journal of the American Academy of Dermatology. *Accepted*.

Laurent O, Hu J, Li L, Kleeman MJ, Bartell SM, Cockburn M, **Escobedo LA**, Wu J. (2016). A statewide nested case-control study of preterm birth and air pollution by source and composition: California, 2001-2008. Environ Health Perspect. PMID: 26895492

Deapen D, Wang Y, Meeske K, **Escobedo LA**, Liu L, Cockburn M (eds). (2016). Cancer in Los Angeles County: Trends among Adolescents and Young Adults 1988-2011. Los Angeles County Cancer Surveillance Program, University of Southern California. (link: http://keck.usc.edu/cancer-surveillance-program/wp-content/uploads/sites/166/2016/06/LAC_Trends_1988-2011.pdf)

Gatto NM, Sinsheimer JS, Cockburn M, **Escobedo LA**, Bordelon Y, Ritz B. (2015). Vitamin D receptor gene polymorphisms and Parkinson's disease in a population with high ultraviolet radiation exposure. J Neurol Sci, 352 (1-2), 88-93. PMID: 25890641.

Laurent O, Hu J, Li L, Kleeman M, Bartell S, Cockburn M, **Escobedo LA**, Wu J. (2015). A Statewide Nested Case-Control Study of Preterm Birth and Air Pollution by Source and Composition: California, 2001-2008. Environmental Health Perspectives, Epub ahead of print. PMID: 26895492.

Laurent O, Wu J, Hu J, Li L, Cockburn M, **Escobedo LA**, Kleeman MJ. (2014). Sources and contents of air pollution affecting term low birth weight in Los Angeles County, California, 2001-2008. Environmental Research, 134, 488-495. PMID: 25085846

Epstein D, Reibel M, Unger J, Cockburn M, **Escobedo LA**, Kale DC, Chang JC, Gold JI. (2014). The effect of neighborhood and individual characteristics on pediatric critical illness. Journal of Community Health, 39 (4), 753-9. PMID: 24488647

Tsui J, Rodriguez HP, Gee GC, **Escobedo LA**, Kominski GF, Bastani R. (2013). Are HPV vaccination services accessible to high-risk communities?: a spatial analysis of HPV-associated cancer and Chlamydia rates and safety-net clinics. Cancer Causes and Control, 24 (12), 2089-98. PMID: 24043448

Curtis A, Mills JW, **Agustin AL**[*], Cockburn M (2011).   Confidentiality risks in fine scale aggregations of health data. Computers, Environment and Urban Systems, 35, 57-64. (link: http://goo.gl/IPdLPP)

CONFERENCE PRESENTATIONS

Escobedo LA, Cockburn M, Wilson J. (2016, June). Spatial disparities in adherence to colorectal cancer screening among the elderly. Poster presentation at the Epidemiology Congress of the Americas, Miami, FL.

Wojcik KY, **Escobedo LA**, Wysong A, Heck JE, Ritz B, Cockburn M. (2016, June). Early life risk factors for melanoma diagnosis before age 30: interactions with sex, age group, and ethnicity. Epidemiology Congress of the Americas, Miami, FL.

Wojcik KY, **Escobedo LA**, Wysong A, Heck JE, Ritz B, Cockburn M. (2016, June). Perinatal and early life risk factors for childhood, adolescent, and young adult melanoma. International Agency for Research on Cancer; 2016 June; Lyon, France.

Escobedo LA, Cockburn M, Wilson JP. (2016, March). Improving the reliability of American Community Survey with an application to targeted melanoma control and prevention. Oral presentation at the annual meeting of the American Association of Geographers, San Francisco, CA.

Cook LS, Nelson HE, Cockburn M, **Escobedo LA**, Muller CY, Wiggins CL. (2016, March). Stage of endometrial cancer and distance to surgery in Hispanics and non-Hispanic whites. Poster presentation at the American Society for Preventive Oncology.

Leavitt ER, Kessler S, Pun S, Gil T, **Escobedo LA**, Cockburn M, Sutton A, Crew AB. (2016, May). Teledermatology as a tool to improve access to care for medically underserved populations: A retrospective descriptive study. Presentation at the annual conference of the Society for Investigative Dermatology.

Zhao N, **Escobedo LA**, Murphy S, Ball-Rokeach S, Amezola-Herrera P. (2014, November). Defining neighborhood clusters in a multilevel study of barriers to cervical cancer prevention, detection, and treatment among Latinas in Los Angeles. Oral presentation at the annual meeting of the American Public Health Association, New Orleans, LA. (link: http://goo.gl/DzRI3f)

Laurent O, Hu J, Li L, Bartell S, Kleeman M, **Escobedo LA**, Cockburn M, Wu. (2014, October). Exposure to multiple sources and components of air pollution and preterm birth in California, 2001-2008. Oral presentation at the annual meeting of the International Society of Exposure Science, Cincinnati, OH.

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[*] Last name changed from Agustin to Escobedo in 2012

Escobedo LA, Cockburn M. (2014, June). Capitalizing on global health initiatives to address the burden of cancer in developing nations. Oral presentation at the annual meeting of the North American Association of Central Cancer Registries/International Association of Cancer Registries. Ottawa, Canada. (link: globalcancersolution.org)

Escobedo LA, Franklin M, Cockburn M. (2014, June). Optimizing Registry data to improve targeted screening in high-risk populations. Oral presentation at the annual meeting of the North American Association of Central Cancer Registries/International Association of Cancer Registries, Ottawa, Canada. (link: http://goo.gl/oNiwCI)

Escobedo LA, Cockburn M. (2013, November). Improving targeted screening for melanoma in high-risk populations. Poster session presented at the annual meeting of the Society for Melanoma Research, Philadelphia, PA. (link: http://goo.gl/PTi9m4)

Escobedo LA, Crew A, Cockburn M. (2013, June). Effects of accessibility of dermatology clinics on late diagnosis of melanoma. Poster session presented at the annual meeting of the Society for Epidemiologic Research, Boston, MA. (link: http://goo.gl/Qoo0sE)

Escobedo LA, Surani Z, Baezconde-Garbanati L, Cockburn, M. (2013, June). Targeting lung cancer control efforts among African-American menthol smokers in Los Angeles County. Oral presentation at the annual meeting of the North American Association of Central Cancer Registries. Austin, TX. (GIS student travel award) (link: http://goo.gl/RGDUSu)

Escobedo LA, Crew A, Cockburn M. (2013, April). Effects of dermatology clinic accessibility on melanoma severity at diagnosis. Poster session presented at the annual meeting of the Association of American Geographers, Los Angeles, CA. (link: http://goo.gl/4hyQv2)

Surani Z, **Agustin AL***, Lally K, Kashiwagi C, Barnett E. (2012, October). Cancer prevention and screening among South Asian women: utilization of a culturally and linguistically appropriate health education strategy. Poster session presented at the annual meeting of the American Public Health Association, San Francisco, CA. (link: http://goo.gl/FYCy8z)

Agustin AL*, Surani Z, Cockburn M, Baezconde-Garbanati L. (2011, June). Creating tailored local cancer control plans: Are Cancer Surveillance Units at the table? Poster session at the annual meeting of the North American Association of Central Cancer Registries, Louisville, KY. (student poster award, first place)(link: http://goo.gl/nPqGSk)

Agustin AL*, Cockburn M. (2010, June). Mapping late stage breast cancer rates to improve local cancer control efforts. Oral presentation at the annual meeting of the North American Association of Central Cancer Registries, Quebec, Canada. (link: http://goo.gl/Mh500G)

COMMUNITY

Comprehensive Cancer Control Coalition in Service Planning Area 4 (C4-SPA4) (2011-present): Co-founder. C4-SPA4 (formed by community organizations, university researchers and healthcare providers) assists in building capacity among its members to adapt evidence-based strategies in cancer control and prevention. The formation of C4-SPA4 was a response to a study I led that used kernel density estimation to assess the geographic concentration of late-stage breast cancer across Los Angeles County. Service Planning Area 4 (SPA 4), one of the regions used by the Department of Public Health to provide need-specific health resources, had the densest concentration of late-stage breast cancer among Latinos and Asian/Pacific Islanders were found in SPA 4. These findings, along with results of the LA County Health Survey, were presented to community stakeholders and policymakers serving SPA 4, and called attention to cancer disparities, low mammogram use, and poor access to screening.

Saath/Special Service for Groups (2006-2010): Program Manager. Saath is a non-profit organization that aims to address the health needs of South Asians. I assisted in grant-writing and secured funding from various organizations (e.g. Susan G. Komen for the Cure, HealthCare Foundation for Orange County) to promote breast, cervical, ovarian and colorectal cancer screening among underserved South Asian women in Orange County and Los Angeles County, USA. I led the development of innovative, evidence-based educational materials such as an ovarian cancer fact sheet tailored to increase awareness around ovarian cancer among Korean-Americans, and a photonovella designed to promote secondary cancer prevention among South Asians women (video preview: http://goo.gl/Tk8MsZ). Before getting promoted to Program Manager, I worked as Saath's Project Coordinator and supervised breast cancer informational workshops to underserved South Asian women.

TEACHING EXPERIENCE

2007 - 2012   Graduate teaching assistant, University of Southern California, Los Angeles, CA
    Design of Clinical Studies (Spring 2012)
    Principles of Epidemiology (Spring and Summer 2011)
    Foundations in Health Education and Promotion (Spring 2008)
    Health Behavior Research Methods (Spring 2007)
    Principles of Biostatistics (Summer 2007)
    Gender and Minority Health Issues (Fall 2007)

RESEARCH EXPERIENCE

2015-   Postdoctoral scholar-research associate, University of Southern California, Los Angeles, CA
2010 - 2015   Research associate, University of Southern California, Los Angeles, CA

ONGOING RESEARCH SUPPORT

USC Spatial Sciences Institute (09/01/2015-08/31/2017)
Application of geospatial methods to improve cancer control and prevention

The purpose of this postdoctoral research scholarship is to highlight the significant role of the spatial sciences in setting the direction for future research and policy changes that account for people, place and time. The proposed projects involve the assessment of the geography of health inequality in Los Angeles County and the development of protocol standards to guide the display and sharing of confidential location-based data.
Role: Post-Doctoral Scholar

R01 CA195218/CA/NCI/United States (09/01/2015-08/30/2017)
Co-Principal Investigators: Myles Cockburn and Bryan M. Langholz
Innovative solutions to spatial uncertainty in geocoding
The goal of this study is to test the inclusion of geocode uncertainty into an exposure assessment model, and then apply that approach in a study of the role of pesticides in childhood leukemia - an example which has a high resolution exposure surface, high variability in geocode accuracy, and is an excellent example of some of the worst case scenarios in assuming uniform spatial certainty of geocodes.
Role: Research Assistant

P30AG043073/CA/NIH NIA (07/01/2016-06/30/2017)
Principal Investigator for the Resource Center for Minority Aging Research (RCMAR) at the University of Southern California: Dana Goldman
Spatial disparities in adherence to colorectal cancer screening among the elderly
The overall goal of the proposed research is to understand racial/ethnic and spatial disparities in adherence to colorectal cancer screening among elderly groups in Los Angeles County. Using population-based data from SEER-Medicare and the Los Angeles County Cancer Surveillance Program, the proposed cross-sectional study will address the gap in the literature by examining the geographic pattern of adherence to colorectal cancer screening among the elderly population, stratified by race/ethnicity, using scan statistics. Second, this study will examine how area-based socioeconomic measures from the American Community Survey 2008-2012 (mobility, social characteristics and economic infrastructures), and awareness of colorectal cancer screening (proximity to hotspots where patients are more likely to be adherent than non-adherent) contribute to adherence to colorectal cancer screening using unconditional multivariate logistic regression. Third, this study will assess the potential cost-effectiveness of colorectal cancer screening activities targeting low-adherent communities through simulation models that predict the number of elderly patients with advanced stage colorectal cancer who may potentially be screened early and survive.
Role: Principal Investigator of study

COMPLETED RESEARCH SUPPORT
National Cancer Institute and the California Department of Public Health (2010-2015)
The Los Angeles Cancer Surveillance Program and the Surveillance Epidemiology and End Results
The responsibilities of the Research Assistant include the development and dissemination of methods for improved cancer control using advanced spatial techniques.
Role: Research Assistant

R01 CA121052/CA/NCI NIH HHS/United States (05/10/2010-05/31/2012)
Principal Investigator: Myles Cockburn
Improving early detection of melanoma with skin self-examination
The purpose of this study was to provide data on the effectiveness of skin self-examination (SSE).
Role: Research Assistant

SUMMARY OF SKILLS

Epidemiological and statistical methods
Observational study designs: cross-sectional, case-control, longitudinal
Statistical analyses: logistic regression, linear regression, survival analysis
Spatial statistics: geostatistics, testing for spatial autocorrelation, investigating spatial patterns, modeling spatial patterns, local cluster detection
Standardized Incidence Ratio and Standardized Mortality Ratio
Population Attributable Fraction
Receiver Operating Characteristic curve

Databases
Cancer incidence data from population-based cancer registries (includes geographical and temporal data): United States Surveillance, Epidemiology and End Results (SEER) Program, California Cancer Registry, Los Angeles County Cancer Surveillance Program
Population database (United States Census)
Primary data of accessibility of dermatology clinics
California birth registry
Geodata: property tax assessor parcel data, Digital Elevation Model

Statistical packages
SAS
Stata
SPSS
R

Geographic Information Systems (GIS)
ArcGIS for Desktop
SaTScan

Cartographic design and web-based maps
Mapbox
Tilemill
ArcGIS online
ESRI Story Maps
ESRI Community Analyst
ESRI Business Analyst

Grant-writing
Research grant (e.g. National Institutes of Health R03)
Community health grant (e.g. Susan G. Komen for the Cure)

Research compliance
NIH FCOI certified
diSClose certified
Grants Management Training

Languages
Filipino (native)
English (fluent)

HONORS AND AWARDS

2008	Traineeship, Minority Training Program in Cancer Control and Research
2008	Delta Omega Honorary Society in Public Health, University of Southern California
2009	Traineeship, Programs in Biomedical and Biological Sciences (PIBBS), University of Southern California
2010	Poster award, first place, North American Association of Central Cancer Registries
2011	Travel sholarship, International Conference on Geospatial Geocoding
2013	Travel scholarship, North American Association of Central Cancer Registries
2016-2017	Scholar, USC Resource Center for Minority Aging Research (RCMAR)

PROFESSIONAL MEMBERSHIPS
Member, North American Association of Central Cancer Registries (NAACCR)
Member, American College of Epidemiology (ACE)
Member, Society for Epidemiologic Research (SER)
Member, American Association of Geographers
Member, Society for Melanoma Research (SMR)