

## **Loraine A. Escobedo, MPH, PhD**

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### **Appointment**

Postdoctoral Scholar  
Spatial Sciences Institute  
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### **Education**

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

Doctor of Philosophy, Epidemiology (2010-2015)  
Master of Public Health, Public Health with a focus on Epidemiology and Biostatistics (2006-2008)  
Bachelor of Science, Health Promotion and Disease Prevention (2004-2006)

### **Publications**

- Laurent O, Hu J, Li L, Kleeman M, Bartell S, Cockburn M, **Escobedo LA**, Wu J. (2015). Preterm birth and air pollution by source and composition in California. Status: submitted to Environmental Health Perspectives
- Deapen D, Wang Y, Meeske K, **Escobedo LA**, Liu L, Cockburn M (eds). (2014). Cancer in Los Angeles County: Trends among Adolescents and Young Adults 1988-2011. Los Angeles County Cancer Surveillance Program, University of Southern California. Status: manuscript ready for copyedit.
- 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>)

## **Professional Experience**

### **PhD Dissertation**

**“Application of geospatial methods to cancer surveillance data to improve cancer prevention and control”** addresses major gaps in the literature related to the identification of high-risk subpopulations to target for early-detection campaigns in the United States. The overarching goal is to provide a community translational approach to cancer control which is currently lacking. It is comprised of three papers that focus on melanoma control:

**Paper 1:** **Escobedo LA**, Eginli A, Crew AB, Peng D, Cousineau M, Cockburn M. **The Role of Spatially-Derived Access-to-Care Characteristics in Melanoma Prevention and Control in Los Angeles County.** Status: in preparation

*Objective:* To assess the effects of patient characteristics and contextual, potential and spatial access-to-care measures on the risk of advanced tumors

*Significance:* This is the first population-based study to present the accessibility to dermatological care in Los Angeles County. Increasing rates of invasive melanoma among certain subpopulations in the County (e.g. Hispanic whites) suggest that these populations may have been overlooked in current early detection strategies or may have substandard access to dermatological care. Neighborhood- and race-specific barriers to dermatological care, identified in the study, will support evidence-based secondary prevention to ensure appropriate and timely care reaches underserved, high-risk populations.

*Methods:* Cross-sectional study design, unconditional logistic regression, primary data collection

*Results:* Public health insurance, census tract-level education and dermatology clinic density were the strongest predictors of advanced melanomas but those effects were modified by race/ethnicity and poverty: Hispanic whites and high-poverty neighborhoods were worse off than non-Hispanic whites and low-poverty neighborhoods.

**Paper 2:** **Escobedo LA**, Franklin M, Wilson JP, Deapen D, Crew AB, Sherman R, Cockburn M. **Identifying Geographical Priority Areas for Melanoma Screening in Southern California.** Status: in preparation

*Objective:* To locate geographic hotspots for potentially screenable melanoma (areas with significantly high ratios of invasive-in situ cases of melanoma) using patients’ residential addresses at diagnosis

*Significance:* This study improves our knowledge of the geographic distribution of melanoma in Southern California which is currently lacking. Challenges unique to confidential geospatial data were addressed (i.e. edge effects, Modifiable Areal Unit Problem, patient confidentiality and geocode accuracy). Findings can be used to improve the cost-effectiveness of melanoma screening and prevention efforts by targeting geographical priority areas where we are more likely to find patients who present advanced melanomas.

*Methods:* Cluster analysis using scan statistics (SaTScan)

*Results:* We found geographic patterns distinct to non-Hispanic and Hispanic whites. Among non-Hispanic whites, a significant primary hotspot was detected on the border shared by the counties of Los Angeles and San Bernardino. Among Hispanic whites, a primary hotspot was detected crossing the counties of San Bernardino and Riverside.

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\* Last name changed from Agustin to Escobedo in 2012

**Paper 3:** **Escobedo LA, Franklin M, Wilson JP, Deapen D, Cockburn M. Evaluating the Potential Yield of Geographically-Targeted Melanoma Screening Efforts in Los Angeles County.** Status: in preparation

*Objective:* To identify populations in Los Angeles County that would most likely benefit from targeted screening and to measure the potential value of improved targeting by estimating the sensitivity and specificity of the approach in identifying truly high-risk melanoma regions

*Significance:* We developed the Accessibility Index, a composite score using census tract-level data from the Census representing patients' access to care (low education levels, lack of health insurance and enrollment in public health insurance). Study findings have real-world application in improving existing early melanoma detection programs, and providing an opportunity to evaluate the efficacy of clinical skin examinations targeted to high-risk individuals. The proposed approach focuses on improving current early detection programs for melanoma but the same approach would be even more useful for screenable cancers with larger race/ethnic variation (e.g. cervical, breast and colorectal cancers). The use of readily-available data (i.e. Census data), moreover, makes this approach scalable to any population-based cancer registry in the United States.

*Methods:* Geostatistical interpolation, Receiver Operating Characteristic

*Results:* The Accessibility Index had high sensitivity for detecting cases residing in hotspots among non-Hispanic whites but was not sensitive enough for Hispanic whites. It had to be combined with our knowledge of where the hotspots are to produce more compact and feasible priority areas for Hispanics.

### **Interdisciplinary collaboration**

- 1) *Partners:* University of Southern California, Keck School of Medicine, Department of Dermatology  
*Title:* Fotonovela to prevent secondhand smoke exposure in multiunit housing (2014)  
*Manuscript:* Leavitt ER, Kessler S, Pun S, Gil T, Escobedo LA, Cockburn M, Sutton A, Crew AB. (2015). Teledermatology as a tool to improve access to care for one of the United States' largest underserved populations. Status: in preparation
- 2) *Partners:* University of Southern California, Keck School of Medicine, Preventive Medicine, Health Behavior Research  
*Title:* Fotonovela to prevent secondhand smoke exposure in multiunit housing (2014)  
*Map:* <http://goo.gl/5FkEQF>
- 3) *Partners:* The Los Angeles County Cancer Surveillance Program (population-based cancer registry)  
*Title:* Cancer in Los Angeles County: Trends among Adolescents and Young Adults 1988-2011 (2013-present)  
*Manuscript:* Deapen D, Wang Y, Meeske K, **Escobedo LA**, Liu L, Cockburn M (eds). (2014). Cancer in Los Angeles County: Trends among Adolescents and Young Adults 1988-2011. Los Angeles County Cancer Surveillance Program, University of Southern California (monograph ready for copy/edit).
- 4) *Partners:* University of Southern California, Keck School of Medicine, Preventive Medicine, Epidemiology  
*Title:* Impact of age-specific and total cumulative sun exposure on risk of melanoma (2014)  
*Manuscript:* PhD dissertation of Amanda Goodrich, PhD candidate in Epidemiology
- 5) *Partners:* University of Southern California, Annenberg School for Communication and Journalism  
*Title:* Neighborhood cluster analysis (2013-present)  
*Presentation:* 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, American Public Health Association, New Orleans, LA. (link: <http://goo.gl/DzRI3f>)
- 6) *Partners:* University of Southern California, Norris Patient Education and Community Outreach Center  
*Title:* Targeting lung cancer control efforts among African-American menthol smokers in Los Angeles County (2012-present)

*Presentation:* **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, North American Association of Central Cancer Registries. Austin, TX. (GIS student travel award) (link: <http://goo.gl/RGDUSu>)

7) *Partners:* University of California, Irvine, Program in Public Health and Department of Civil and Environmental Engineering

*Title:* Sources and contents of air pollution affecting term low birth weight in Los Angeles County, California (2013)

*Manuscript:* 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*, in press. PMID: 25085846

8) *Partners:* Children's Hospital Los Angeles, Department of Anesthesiology Critical Care Medicine

*Title:* The effect of neighborhood and individual characteristics on pediatric critical illness (2013)

*Manuscript:* 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. *J of Community Health*, 39(4), 753-9. PMID: 24488647

9) *Partners:* Columbia University, Mailman School of Public Health, Department of Epidemiology

*Title:* Are HPV vaccination services accessible to high-risk communities?: a spatial analysis of HPV-associated cancer and Chlamydia rates and safety-net clinics (2011)

*Manuscript:* 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

10) *Partners:* University of Southern California, Department of American Studies and Ethnicity

*Title:* Confidentiality risks in fine scale aggregations of health data (2010)

*Manuscript:* 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>)

## 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** (2008-2010): 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 also 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 (2006-2008) and supervised breast cancer informational workshops to underserved South Asian women.

## Presentations at congresses

- 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.
- 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](http://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/oNiwCl>)
- 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>)