

Hana Lee

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Food and Drug Administration
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EDUCATION

- 2006 BS Statistics Seoul National University, South Korea
2010 MS Biostatistics University of North Carolina at Chapel Hill
Thesis: *Detecting Significance Level of Brain Activity via Self-Calibrated Method in fMRI*
Advisor : Young Truong
2013 PhD Biostatistics University of North Carolina at Chapel Hill
Dissertation: *Marginal Structural Cox Models with Case-cohort Sampling*
Advisors : [Michael G. Hudgens](#) and Jianwen Cai

PROFESSIONAL POSITION

- 2016-Present Visiting Associate, US Food and Drug Administration (FDA)
2013-2016 Assistant Professor of Biostatistics (Research Track), Brown University
2013-2016 Biostatistics Core, The Lifespan/Brown/Boston University Center for AIDS Research (CFAR)
2013-2016 Research Faculty Member, Brown Alcohol Research Center on HIV (ARCH)

RESEARCH INTERESTS

Survival Analysis, Causal Inference, Clinical Trials and HIV Studies, Case-Cohort Design, Missing Data, Neuro-scientific Image Analysis (fMRI)

PUBLICATIONS

A. Articles in peer-reviewed journals

1. MG Hudgens, TE Taha, SB Omer, DJ Jamieson, **H Lee**, LM Mofenson, C Chasela, AP Kourtis, N Kumwenda, A Ruff, A Bedri, JB Jackson, P Musoke, RC Bollinger, N Gupte, MC Thigpen, A Taylor, and C van der Horst. (2013). "Pooled Individual Data Analysis of Five Randomized Trials of Infant Nevirapine Prophylaxis to Prevent Breast-Milk HIV-1 Transmission". *Clinical Infectious Diseases*, 56(1):131-139. [[doi:10.1093/cid/cis808](https://doi.org/10.1093/cid/cis808)]
2. CJ Sellers, **H Lee**, C Chasela, D Kayira, A Soko, I Mofolo, S Ellington, MG Hudgens, AP Kourtis, CC King, DJ Jamieson, and C van der Horst on behalf of the [Breastfeeding, Antiretrovirals, and Nutrition \(BAN\)](#) team, UNC (2014). "Reducing Lost-to-Follow-up Rate in a Large Prevention of Mother-to-Child Transmission of HIV Clinical Trial: The Breastfeeding, Antiretrovirals and Nutrition (BAN) Study Experience". *Clinical Trials*, 1-10. [[doi:10.1177/1740774514562031](https://doi.org/10.1177/1740774514562031)]
3. Monnig, M.A., Kahler, C.W., **Lee, H.**, Pantalone, D.W., Mayer, K.H., Cohen, R.A., & Monti, P.M. (2016) "Effects of smoking and alcohol use on neurocognitive functioning in heavy drinking, HIV-positive men who have sex with men." *AIDS care*, 28(3): 300-305. [[doi:10.1080/09540121.2015.1093595](https://doi.org/10.1080/09540121.2015.1093595)]
4. **H Lee**, MG Hudgens, J Cai, and SR Cole (2016). "Marginal Structural Cox Models with Case-Cohort Sampling". *Statistica Sinica*, 26(2): 509-526. [[doi:10.5705/ss.2014.015](https://doi.org/10.5705/ss.2014.015)]

5. L Embleton, **H Lee**, J Gunn, D Ayuku, and P Braitstein (2016). "Causes of Child and Youth Homelessness in Developed and Developing Countries: A Systematic Review and Meta-analysis". *The Journal of the American Medical Association (JAMA) Pediatrics*, 170(5): 435-444. [[doi:10.1001/jamapediatrics.2016.0156](https://doi.org/10.1001/jamapediatrics.2016.0156)]

News Coverage Report

- [Poverty to blame for most youth homelessness worldwide](#), Fox
 - [Study Reveals No. 1 Cause Of Youth Homelessness](#), Huffington Post
 - [Reasons reported by children, youth for being on the streets](#), Medical Xpress
6. RK Papas, SA Maisto, BN Gakinya, MM Mwaniki, DA Klein, A Keter, MP Loxley, **H Lee**, JB Baliddawa, S Martino, KL Schlaudt, JE Sidle (2016). "Associations Between the Phosphatidylethanol Alcohol Biomarker and Self-Reported Alcohol Use in a Sample of HIV-Infected Outpatient Drinkers in Western Kenya". *Alcoholism: Clinical and Experimental Research* 40 (8): 1779-1787. [[doi:10.1111/acer.13132](https://doi.org/10.1111/acer.13132)]
 7. KH Lee, M Boltz, **H Lee**, and DL Algase (2016+). "Is an engaging or soothing environment associated with the psychological well-being of people with dementia in long-term care?". *Journal of Nursing Scholarship* 49:1, 1-8. [[doi: 10.1111/jnu.12263](https://doi.org/10.1111/jnu.12263)] (In press)
 8. RK Papas, BN Gakina, MM Mwaniki, **H Lee**, SW Kiarie, S Martino, MP Loxley, AK Keter, DA Klein, JE Sidle, JB Baliddawa, SA Maisto (2017). "Rates and covariates of recent sexual and physical violence against HIV-infected outpatient drinkers in western Kenya". *AIDS and Behavior*. [[doi: 10.1007/s10461-017-1684-y](https://doi.org/10.1007/s10461-017-1684-y)] (In press)

B. Non-refereed journal articles

1. **H Lee**, Y Truong, and X Huang (2010). "Detecting Significance Level of Brain Activity via Self-Calibrated Method in fMRI". School of Public Health, Department of Biostatistics, University of North Carolina at Chapel Hill.

C. Submitted and in preparation

1. R Vedanthan, JH Kamano, **H Lee**, B Andama, GS Bloomfield, AK DeLong, D Edelman, EA Finkelstein, JW Hogan, CR Horowitz, S Manyara, D Menya, V Naanyu, SD Pastakia, TW Valente, CC Wanyonyi, V Fuster (2016+). "Bridging Income Generation with Group Integrated Care (BIGPIC) for Cardiovascular Risk Reduction: Rationale and Design of the BIGPIC Study". *American Heart Journal* (Invited to Resubmit)
2. **H Lee**, JW Hogan, BL Genberg, A Mwangi, BS Musick, and P Braitstein (2016+). "A state space framework for patient-level modeling of engagement and retention in HIV care using longitudinal cohort data". *Statistics in Medicine* (Invited to Resubmit)
3. KH Lee, M Boltz, **H Lee**, and DL Algase (2016+). "Does social interaction matter psychological well-being in persons with dementia?". *American Journal of Alzheimer's Disease and Other Dementias* (Invited to Resubmit)
4. **H Lee**, X Wu, M Mugavero, SR Cole, B Lau, BL Genberg, and JW Hogan (2017). "Beyond binary retention in HIV care: Predictors for cyclic process of engagement, disengagement, and re-entry to care". *In preparation* (Abstract accepted from the annual Conference on Retroviruses and Opportunistic Infections (CROI) 2017).
5. **H Lee**, X Wu, M Mugavero, SR Cole, B Lau, BL Genberg, and JW Hogan (2017). "Predictors for longitudinal engagement and retention in care among women living with HIV in the US". *In preparation* (Abstract accepted from Inter-CFAR Collaboration on HIV Research in Women Symposium 2016).
6. **H Lee**, X Wu, M Mugavero, SR Cole, B Lau, BL Genberg, and JW Hogan (2017). "Effect of the 'Treat-Immediately' Strategy on HIV Care Engagement and Mortality in CNICS". *In preparation* (Abstract accepted from International Workshop on HIV and Hepatitis Observational Database (IWHOD) 2017)

7. **H Lee**, BL Genberg, P Braitstein, and JW Hogan (2017). "State-space models to represent cycling of engagement in and out of the HIV care cascade". *In preparation* (Abstract accepted from CROI 2016).
8. **H Lee**, BL Genberg, P Braitstein, AW Mwangi, BS Musick, and JW Hogan (2017). "Causal comparative analysis of *treat immediately* plan in a large PEPFAR care program". *In preparation* (Abstract submitted to the CROI 2017)
9. BL Genberg, **H Lee**, P Braitstein, and JW Hogan (2017). "Patient retention in HIV care is related to point of diagnosis in western Kenya". *In preparation* (Abstract accepted from CROI 2015).
10. RK Papas, SA Maisto, **H Lee**, AK Keter, MM Mwaniki, MP Loxley (2017). "CBT intervention to reduce alcohol use among HIV-infected outpatients in western Kenya: Results from a randomized clinical trial". *In preparation* (Abstract submitted to Research Society on Alcoholism (RSA) 2017).
11. Howe CJ, VanderWeele TJ, **Lee H**, Wellenius GA, and Meliker J (2017). "A methodological approach for performing causal mediation analyses based on case-cohort data". (Abstract submitted to the annual meeting for the Society for Epidemiologic Research (SER) 2017).
12. RK Papas, SA Maisto, X Wu, **H Lee**, MM Mwaniki, MP Loxley (2017). "Alcohol as a Barrier to Eliminating HIV in Western Kenya". *In preparation*.
13. **H Lee**, MG Hudgens, and J Cai (2017). "More efficient inference of marginal structural Cox models with case-cohort sampling". *In preparation*.
14. Rachlis B, **Lee H**, Genberg B, Musick B, Ochieng D, Some FE, Nyambura M, Sang E, Hogan J, Braitstein P (2017). Gaps in care among HIV-infected adults receiving care in western Kenya. *In preparation*.
15. **H Lee** and JK Kim (2017). "A Bayesian approach to propensity score method of estimating Average Treatment Effect (BATE)". *In preparation*.

ABSTRACTS

1. Genberg BL, **Lee H**, Some F, Hogan J, Braitstein P (2015). Patient retention in HIV care is related to point of diagnosis in western Kenya. Poster presented at: CROI 2015, Seattle, WA, February 25, 2015. Abstract no. 1073.
2. **H Lee**, JW Hogan, BL Genberg, E Sang, M Nyambura, A Mwangi, and P Braitstein (2015). "A state space framework for patient-level modeling of the HIV care cascade using longitudinal cohort data" [abstract]. In: International Workshop on HIV Observational Databases; 2015 Mar 26th-28th; Catania, Sicily: Abstract # 57
3. Monnig, M. A., Kahler, C. W., **Lee, H.**, Mayer, K., Cohen, R. A., Monti, P. M., & Pantalone, D. (2015, June). "Associations of smoking and heavy alcohol use with neurocognitive functioning in HIV-positive men." In *Alcoholism-Clinical and Experimental Research* (Vol. 39, pp. 31A-31A). 111 River st, Hoboken 07030-5774, NJ USA: Wiley-Blackwell.
4. Genberg B, Wachira J, Rachlis B, **Lee H**, Bauer C, Naanyu V, Nyambura M, Sang E, Xu Y, Hogan J, Braitstein P. Are HIV-positive individuals more likely to engage with care if someone else in the household is HIV-positive and in care? Poster presented at: The 8th IAS Conference on HIV Pathogenesis, Treatment & Prevention, 19-22 July 2015, Vancouver, Canada
5. Rachlis B, **Lee H**, Genberg B, Musick B, Ochieng D, Some FE, Nyambura M, Sang E, Hogan J, Braitstein P. Gaps in care among HIV-infected adults receiving care in western Kenya. Poster presented at: The 8th IAS Conference on HIV Pathogenesis, Treatment & Prevention, 19-22 July 2015, Vancouver, Canada.
6. Lee, K. H., Boltz, M., **Lee, H.**, & Algase, D. (2015). Transition to Long-term Care: The Influence of Environment upon Psychological Well-being in Persons with Dementia. (Abstract). *The Gerontologist* 55 (S2), 524-525. (Presented at the 68th the GSA Annual Scientific Meeting, Orlando, FL, November 20, 2015).

7. **H Lee**, BL Genberg, M Nyambura, E Sang, JW Hogan, and P Braitstein (2016). State-Space Models for Engagement, Retention, and Re-entry in the HIV Care Cascade. Poster presented at: CROI 2016, Boston, February 24, 2016. Abstract no. 1042.
8. Lee, K. H., Boltz, M., **Lee, H.**, & Algase, D. (2016). Social interaction as a quality measure of nursing home social environment (Abstract). *The Gerontologist* 56 (S3), 24. (Presented at the 69th the Gerontological Society of America (GSA) Annual Scientific Meeting, November, 2016).
9. **H Lee**, X Wu, M Mugavero, SR Cole, B Lau, BL Genberg, and JW Hogan (2017). Beyond binary retention in HIV care: Predictors for cyclic process of engagement, disengagement, and re-entry to care. Poster presented at: CROI 2017, Seattle, WA, February 14, 2017. Abstract no. 908.

PRESENTATIONS

(invited talks are marked by *)

1. Detecting significance level of brain activity using self-calibrated method, *2011 International Biometric Society Eastern North American Region (ENAR) Spring Meetings*, March, 2011.
2. Marginal Structural Cox Models with Case-cohort Sampling, *2013 ENAR*, March, 2013.
3. *Marginal Structural Cox Models with Case-cohort Sampling, *National Institute of Allergy and Infectious Diseases (NIAID)*, March, 2013.
4. *Marginal Structural Cox Models with Case-cohort Sampling, *Brown University*, March, 2013.
5. *Marginal Structural Cox Models with Case-cohort Sampling, *2013 Joint Statistical Meetings (JSM)*, August, 2013.
6. Marginal Structural Cox Models with Case-cohort Sampling, *2014 Institute of Mathematical Statistics Asia Pacific Rim Meeting (IMS-APRM)*, July, 2014.
7. More Efficient Inference of Marginal Structural Cox Models with Case-Cohort Sampling, *2014 JSM*, August, 2014.
8. (Poster) A State Space Framework for Patient-Level Modeling of the HIV Care Cascade using Longitudinal Cohort Data, *19th IWHOD*, March, 2015
9. A state space framework for patient-level modeling of the HIV care cascade using longitudinal cohort data, *2015 JSM*, August, 2015
10. (Poster) Marginal Structural Cox Models with Case-cohort Sampling, *Infectious Diseases Research: Quantitative Methods and Models in the Era of Big Data*, NIAID/NIGMS/NIH, November, 2015.
11. (Poster) State-space models for engagement, retention, and re-entry in the HIV care cascade, *CROI*, Feb, 2016
12. *A State Space Framework for Patient-Level Modeling of the HIV Care Cascade using Longitudinal Cohort Data, *ENAR*, March, 2016
13. *CROI update, *Clinical AIDS Task Force Series, Brown University AIDS program at the Miriam Hospital*, March, 2016
14. *Causal Inference and Cost-Effective Design, *U.S. Food and Drug Administration (FDA)*, May, 2016.
15. Predictors for longitudinal engagement and retention in care among women living with HIV in the US, *the CFAR Joint Symposium on HIV Research in Women at University of Alabama Birmingham*, December, 2016

RESEARCH SUPPORT

A. Active

1. **A Statistical Framework for Analysis of the HIV Care Cascade using CNICS Data**
 Role: Principal-Investigator
 Amount: \$108,126
 Funding Agency: NIAID
 Period: 07/01/15 - 06/30/17
2. **Bridging Income Generation with GrouP Integrated Care (BIGPIC)**
 Role: Co-Investigator
 Amount: \$493,207
 Funding Agency: NIH
 Period: 04/01/15 - 03/31/20
3. **A Stage 2 Cognitive-Behavioral Trial: Reduce Alcohol First in Kenya Intervention (RAFIKI)**
 Role: Co-Investigator
 Amount: \$2,605,520
 Funding Agency: NIH
 Period: 09/15/11 - 08/31/17
4. **Orphaned & Separated Children's Assessment Related to their Health & Well-Being (OSCAR)**
 Role: Co-Investigator
 Amount: \$976,030
 Funding Agency: NIH
 Period: 06/01/15 - 05/31/20
5. **Alcohol and HIV: Biobehavioral Interactions and Intervention**
 Role: Faculty Statistician
 Amount: \$727,116
 Funding Agency: NIAAA
 Period: 09/30/10-05/31/20
6. **Center for AIDS Research (CFAR) Biostatistics Core**
 Role: Faculty Statistician
 Amount: 1,427,525
 Funding Agency: NIH/The Miriam Hospital Subcontract
 Period: 09/01/98 - 06/30/17

SERVICE ACTIVITIES

A. University Service

1. Teaching (PhD courses)

- Guest lectures, PHP 2610: Missing Data and Causal Inference, Brown University, Fall 2016
 - Bounds, inverse probability weighting, and imputation methods
 - Assumptions for missing data analysis
- Course director, PHP 2610: Missing Data and Causal Inference, Brown University, Fall 2015

Student evaluation score	Instructor's effectiveness	Overall course effectiveness
n=11 (out of 14)	1.23*	1.38*

*: based on a 5-point scale in which 1 is top score

- Guest lectures, PHP 2610: Missing Data and Causal Inference, Brown University, Fall 2014
 - Propensity score, inverse probability weighting, and imputation methods
 - Doubly robust estimators
- Guest lectures, PHP 2602: Analysis of Lifetime Data, Brown University, Fall 2014

- Cox models with case weights
- An introduction to causal inference, with extensions to time to event data

2. Advising Roles

- Thesis advisor, Ian Schmid (2016 Master thesis award winner), ScM in Biostatistics, Brown University, 2016
 - Thesis title: *A programmatic evaluation of HealthPath, a Rhode Island health home for privately insured individuals with serious behavioral health conditions*
- Academic advisor, Seoung Won Lim, ScM in Biostatistics, Brown University, *expected in 2017*
- Academic advisor, Zeling He, AM in Biostatistics, Brown University, *expected in 2017*
- Thesis Committee, Valerie Strezsak, PhD Epidemiology, Brown University, *expected in 2017*
- Thesis Reader, Jin Shi, ScM in Biostatistics, Brown University, 2016
- Thesis Reader, Renxia Huang (2014 Master thesis award winner), ScM in Biostatistics, Brown University, 2014
 - Thesis title: *Pooled viral load testing for monitoring HIV antiretroviral treatment*

3. Conference, Seminars, and Working Groups

- Atlantic causal inference conference committee, Brown University, 2014
- Lectureship and seminar series organizer, Brown University, 2014

4. Department Committee

- Master admission committee, Brown University, 2015 - 2016
- Teaching scholar search committee, Brown University, 2015
- Department diversity committee, Biostatistics, Brown University, 2016
- Master thesis award committee, Brown University, 2016

B. Peer Review Service

Journal of the American Statistical Association (JASA), Biometrics, Statistics in Medicine, Statistical Methods in Medical Research, Statistical Papers, PLoS one, American Journal of Epidemiology (AJE), International Journal of Obesity

ACADEMIC HONORS & AWARDS

1. Young investigator travel award, Inter-CFAR Collaborative Symposium on HIV Research in Women, 2016
2. Student Travel Awards, School of Public Health, UNC, 2011 ENAR
3. Student Travel Awards, School of Public Health, UNC, 2013 ENAR
4. Student Travel Awards, School of Public Health, UNC, 2013 JSM
5. [Max Halperin Scholarship](#) for Excellence in Graduate Studies, UNC, 2007
6. Hongsan Foundation Fellowship Recipient, SNU, 2003–2005.
7. SNU Scholarship, SNU, 2001–2003.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Statistical Association (ASA)

Institute of Mathematical Statistics International Biometric Society (ENAR)

Korean International Statistical Society (KISS)