MICHAEL LUU, MPH

Cedars-Sinai Samuel Oschin Comprehensive Cancer Center • Biostatistics & Bioinformatics Core
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EDUCATION

University of Southern California, Keck School of Medicine, Los Angeles, CA
Master of Public Health in Biostatistics & Epidemiology, conferred in May 2015

University of California, Irvine, Irvine, CA
Bachelor of Science in Biological Sciences, conferred in Dec 2009

PRESENT POSITION

Research Biostatistician I, Biostatistics & Bioinformatics Core November 2016 - Present
Cedars-Sinai Samuel Oschin Comprehensive Cancer Center, Los Angeles, CA

- Act as a liaison and consultant to the clinical and research faculty regarding ongoing research projects within the Samuel Oschin Comprehensive Cancer Institute as well as other divisions and departments at Cedars Sinai.
- Assist and collaborate in preparation of grant proposals, protocol designs, publications, and presentation by providing statistical support for sample size determination and power analysis.
- Analysis of large cancer registry for survival outcomes from the National Cancer Database (NCDB), and the Surveillance, Epidemiology, and End Results Program (SEER-Medicare) from the National Cancer Institute (NCI).
- Teaching assistant to the biostatistics course for the biomedical sciences PhD program.

PREVIOUS PROFFESIONAL EXPERIENCE

Biostatistician II, Anesthesia Critical Care Medicine March 2016 – November 2016
Children's Hospital Los Angeles, Los Angeles, CA

- Provided statistical support to a multidisciplinary group of faculty physicians, residents, and fellows in study design, power analysis, sample size calculation and data analysis.

Quality Improvement Analyst, Neonatology July 2015 – November 2016
Children's Hospital Los Angeles, Los Angeles, CA

- Collaborated with a multidisciplinary NICCU quality improvement team by providing key analytic insight and development of key analytical tools that directly affect patient care, such as the CHLA/USC Division of Neonatology Enteral Feeding Calculator, and CHLA/USC Division of Neonatology Hand Hygiene Dashboard.

Epidemiology & Outcomes Research Intern, Neonatology September 2014 – July 2015
Children's Hospital Los Angeles, Los Angeles, CA

- Performed exploratory analysis on large administrative databases such as the Healthcare Cost and Utilization Project Kids Inpatient Database (HCUP-KIDs), California's Office of Statewide Health Planning and Development and Pediatrics Health Information Systems consisting of more than 100 thousand observations and explored the relationship of resource utilization and outcomes on the high risk neonatal population.

TEACHING ACTIVITIES

BMS510 - Biostatistics, Biomedical Science Department 2018
Cedars-Sinai Samuel Oschin Comprehensive Cancer Center, Los Angeles, CA

COMPUTING SKILLS

Operating systems: Macintosh, Linux, Windows
Statistical software: R (primary language), beginning knowledge of Python for scientific computing, exposure to Stata, SAS, and SPSS.
Reporting software/tools: R markdown, Jupyter Notebook
R Packages: tidyverse suite (dplyr, tidyr, forcats, purrr, stringr, etc.)
R Visualization Packages: ggplot2, plotly, leaflet
Python Packages: sci-kit learn, numpy, pandas
Other experience: Git and GitHub, as well as web scraping via the rvest R package.

SOFTWARE DEVELOPMENT

CHLA/USC NICU Hand Hygiene Dashboard – A web based online interactive dashboard and report generation tool built on top of the R Shiny framework. This web application is currently being used in a collaborative of more than 100 NICU based auditors across Children's Hospital Los Angeles, Hollywood Presbyterian Hospital, Providence St. John's Health Center, and Providence Tarzana Medical Center to track overall hand hygiene compliance among health care providers.

- https://nicu.shinyapps.io/handhygiene_dash/

CHLA/USC Division of Neonatology Enteral Feeding Calculator – A web based online interactive calculator built on top of the R Shiny framework. This web application implements the enteral feeding algorithm developed internally by the quality improvement team of neonatologist and nurses at CHLA by simplifying the necessity for manual calculation, and by providing an interactive environment for custom parameters and report generation. This web application has been implemented and is in currently in clinical use at Children's Hospital Los Angeles, LAC/USC Medical Center, and Hollywood Presbyterian Medical Center.

- https://nicu.shinyapps.io/feedingcalc

PEER-REVIEWED PUBLICATIONS

1. Yoshida, E. J., Luu, M., David, J. M., Kim, S., Mita, A., Scher, K., … Zumsteg, Z. S. (2018, February 8). Postoperative chemoradiotherapy in patients with head and neck cancer aged 70 or older with positive margins or extranodal extension and the influence of nodal classification. *Head and Neck*. http://doi.org/10.1002/hed.25100

2. Yoshida, E. J., Luu, M., David, J. M., Kim, S., Mita, A., Scher, K., … Ho, A. S. (2017). Facility Volume and Survival in Nasopharyngeal Carcinoma. *International Journal of Radiation Oncology* Biology* Physics*.

3. Mahrer, N. E., Gold, J. I., Luu, M., & Herman, P. M. (2017). A Cost-Analysis of an Interdisciplinary Pediatric Chronic Pain Clinic. *The Journal of Pain*.

4. Zumsteg, Z. S., Luu, M., Yoshida, E. J., Kim, S., Tighiouart, M., David, J. M., … Ho, A. S. (2017). Combined high-intensity local treatment and systemic therapy in metastatic head and neck squamous cell carcinoma: An analysis of the National Cancer Data Base. *Cancer*, 1–11. http://doi.org/10.1002/cncr.30933

5. David, J. M., Ho, A. S., Luu, M., Yoshida, E. J., Kim, S., Mita, A. C., … Zumsteg, Z. S. (2017). Treatment at high-volume facilities and academic centers is independently associated with improved survival in patients with locally advanced head and neck cancer. *Cancer*, 1–10. http://doi.org/10.1002/cncr.30843

ACCEPTED ABSTRACTS

1. **M. Luu**, P. Friedlich, J. Votava-Smith, J. Pruetz, R. Kumar and A. Lakshmanan, Resource Utilization in the United States for Neonates with Hypoplastic Left Heart Syndrome. Poster presented at The Pediatric Academic Societies Annual Meeting, Baltimore, MD (2016).

2. **M. Luu**, TY. Lin, A. Lakshmanan, S. Chin, and S. Nair, Impact on Hand Hygiene Compliance after Implementation of an Active Audit/Immediate Feedback Model in Two Different NICU Settings. Poster presented at The Pediatric Academic Societies Annual Meeting, Baltimore, MD (2016).

3. K. Mongkolrattanothai, S. Chin, S. Nair, TY. Lin, M. Gentry, J. Holmen, and **M. Luu**. Antimicrobial Stewardship in the NICU: Building and Sustaining the effective Collaboration. Poster presented at ID Week2016, New Orleans, LA (2016).

4. N. Bhopal, E. Morley, T. Dang, M. Chang, A. Mihalek, J. Hwan, T. Chavez, **M. Luu**, A. Garingo, R. Cayabyab, S. Nair, S. Chin, TY. Lin, Eating on Time: Evaluation of A Standardized Feeding Advancement Guideline in Preterm Neonates. Poster presented at California Association of Neonatologists: Cool Topics in Neonatology, San Diego, CA (2017)

5. M. Chang, T. Dang, A. Mihalek, N. Bhopal, T. Chavez, **M. Luu**, A. Garingo, S. Nair, M.D, S. Chin, TY. Lin, Achieving Consistent Feeding Practice in a Level IV Neonatal Intensive Care Unit. Poster presented at CAN: Cool Topics in Neonatology, San Diego, CA (2017)

6. **M. Luu**, A. Lakshmanan, P. Friedlich, and S. Noori, Trends in Care of Patent Ductus Arteriosus Among Extremely Preterm Infants in the United States from 2003-2012. Poster presented at The Pediatric Academic Societies Annual Meeting, San Francisco, CA (2017).

7. S. Nair, **M. Luu**, TY. Lin, K. Mongkolrattanothai, M. Gentry and S. Chin, Can Implementation of an Antimicrobial Stewardship Program Decrease Antibiotic Utilization Rate by Standardizing Approach to Sepsis in a Level IV Freestanding NICU. Poster presented at The Pediatric Academic Societies Annual Meeting, San Francisco, CA (2017).

8. HF. Su, **M. Luu**, S. Nair, K. Mongkolrattanothai, M. Gentry and S. Chin, Reduction of Antibiotic Utilization Rate by Standardization of Care in a Level III Community Neonatal Intensive Care Unit. Poster presented at The Pediatric Academic Societies Annual Meeting, San Francisco, CA (2017).

9. MB. Minissian, S. Kilpatrick, J. Eastwood, KJ. Sharma, CL. Shufelt, J. Wei, **M. Luu**, LV. Doering, and NB. Merz, Is Spontaneous Preterm Delivery Associated with Impaired Vascular Function?. Abstract submitted to the American College of Cardiology Young Investigators Award (2017).

10. R. Bakkar, **M. Luu**, X. Fan, D. Frishberg, M. Peralta-Venturina, J. Zhai, and S. Bose., Evaluation of the Paris System for Reporting Urine Cytopathology, Abstract submitted to the United States & Canada Academy of Pathology (USCAP) Annual Meeting (2018)

CONTINUING EDUCATION

Audited the following online coursework:

- **R Programing** (2015), Coursera
- **Data Analysis with R** (2015), Udacity
- **Intro to Data Analysis** (2016), Udacity
- **Intro to Machine Learning** (2017), Udacity
- **How to Use Git and GitHub** (2017), Udacity

Audited the following lecture/tutorials:

- **Data Science in the Tidyverse** (rstudio:conf 2017) – taught by Hadley Wickham, Introduction to the tidyverse suite of R packages and the philosophy of 'tidy data'.

- **Happy R Users Purrr Tutorial** (rstudio:conf 2017) – taught by Charlotte Wickham, Introduction to the purrr package and the philosophy of functional and iterative programming.

- **Building Dashboards with Shiny** (rstudio:conf 2017) – taught by Winston Chang, Introduction to integrating R statistical programming with building web applications and visualizations by the form of interactive dashboard with the Shiny engine.

- **R and Spark** (rstudio:conf 2017) – taught by Javier Luraschi, Introduction to the sparkR package, a frontend to the Apache Spark distributed cluster computing framework for big data and machine learning.

- **Competitive Modeling of Outcomes for Prediction** (rstudio:conf 2017) – taught by Max Kunh, Introduction to the caret package for predictive modeling and machine learning.

- **Happy Git and Github for the useR** (rstudio:conf 2017) – taught by Jenny Bryan, Introduction to Git and Github and its integration with the R Studio IDE.

- **Text Mining the Tidy Way** (rstudio:conf 2017) – taught by Julia Silge, Introduction to concepts of text mining and sentiment analysis with the tidytext r package which integrates the tidy data philosophy.

Attended the following professional conferences:

- The Pediatric Academic Societies Annual Meeting (2015), San Diego, CA
- The Pediatric Academic Societies Annual Meeting (2016), Baltimore, MD
- California Association of Neonatologists: Cool Topics in Neonatology (2016), San Diego, CA
- American Academy of Pediatrics (2015), Washington, D.C.
- Joint Statistical Meeting (2017), Baltimore, MD

PROFESSIONAL MEMBERSHIP

American Statistical Association, April 2017 – present

GRADUATE COURSEWORK

Health Service Delivery in the U.S.
Principles of Epidemiology
Principles of Biostatistics
Foundation in Health Education and Promotion
Environmental Health: An Epidemiological Approach
Epidemiology of Infections Disease
Data Analysis: Analysis of Continuous Data
Genetics in Public Health and Preventive Medicine
Biological Basis of Disease
Data Analysis: Analysis of Categorical Data
Public Health Leadership and Management