

Alexis K. Huynh, Ph.D., MPH

Data Scientist · Biostatistician · Epidemiologist

310-866-9782 · Torrance, CA 90501 ·

www.alexiskhuynh.com · <https://github.com/alexiskhuynh> ·

alexiskhuynh@gmail.com · <https://www.linkedin.com/in/alexis-k-huynh-phd/>

Summary

Highly accomplished Data Scientist and Statistician with a Ph.D. in Quantitative Methods and Modeling and 12 years of progressive experience driving data-driven innovation in healthcare. I leverage a full-stack skillset, from ETL to advanced statistical and machine learning model development, to uncover actionable insights that optimize patient outcomes, enhance operational efficiency, and accelerate research. My expertise in designing and executing complex research projects, coupled with a collaborative approach, translates into measurable improvements and significant value creation, demonstrated by a robust portfolio as a published author.

Core Competencies & Technical Skills

Languages: Python (pandas, statsmodels, numpy, scikit-learn), R (dplyr, ggplot2, caret, randomforest), SQL.

Statistical Software: SAS, SPSS, STATA.

Data Management & ETL: Extract, Transform & Load (ETL), Corporate Data Warehouse (CDW), Data Integrity & Validation.

Machine Learning & AI: Supervised/Unsupervised Learning, Stepwise Selection, Regularization, Decision Tree, Support Vector Machine (SVM), K-Nearest Neighbor, Model Validation, A/B Testing, Causal Inference.

Data Visualization: Tableau, Power BI, Matplotlib, Seaborn.

Healthcare & Research Domain: EHR/Claims Data, Clinical Trials, Real-World Data & Evidence (RWD/RWE), Population Health, Regulatory Compliance (HIPAA), Epidemiology, Biostatistics, Survey Design & Analysis.

Methodologies: Statistical Modeling, Predictive & Prescriptive Analytics, Experimental & Quasi-Experimental Designs, Causal Inference.

Tools: JupyterLab, RStudio, MySQL, MSSQL, Tableau, PowerBI, STATA, SAS, PowerPoint.

Soft Skills: Strategic Problem-Solving, Cross-functional Teams, Policy Communication, Key Stakeholder Engagement.

Work Experience

Research Health Scientist | Veterans Health Affairs at Greater Los Angeles Jul 2012 – Sept 2024

- Spearheaded methodological expertise across a Research & Development Center (\$24M annual funding, 350+ staff), directly influencing 8-10 high-impact research projects annually by leading and advising on study designs and strategies.
- Developed nearest-neighbor matching models to evaluate intensive care management, identifying potential cost savings of 5% to 10% across primary care, emergency department visits, and hospitalizations.
- Executed advanced statistical modeling (multinomial/ordinal logistic regressions) for consumer segmentation, informing targeted interventions that increased patient engagement by 122%.
- Built and maintained robust data pipelines, performing ETL from diverse data warehouses and surveys for over 9 million patients, ensuring >99% data integrity and validity.
- Designed and implemented user sentiment surveys, achieving an average response rate of 90% and generating critical insights that directly informed the development of 3 new patient-centered products.

Research Analyst | Division of HIV and STDs Programs (DHSP), LACDPH – Los Angeles, CA Jan 2011 – Jul 2012

- Developed decision models for HIV programmatic trade-offs, optimizing a \$170M annual budget and influencing cost allocation decisions projected to impact over 50,000+ individuals over 5-7 years.
- Conducted research that increased engagement of HIV+ persons in treatment, contributing to a 1-2% year-over-year increase in care and treatment and a projected reduction in HIV spread.
- Analyzed consumer preferences for prophylaxis (PEP), providing key data that facilitated the successful launch of a pilot HIV-prevention strategy for 70,000 at-risk individuals.
- Collaborated effectively within cross-functional teams (physicians, social scientists, community partners), driving data-driven decisions across 3 major public health initiatives.

Assistant Policy Analyst | Pardee RAND Graduate School Aug 2006 – May 2011

- Applied advanced econometric and quantitative analytical expertise (including social network and qualitative analysis) to solve complex policy challenges.
- Conducted impactful project work on the economic and social effects of antiretroviral therapy (ART) on HIV+ persons, analyzing data from a cohort of over 1,000 individuals to shape evidence-based policy recommendations.

Selected Research Portfolio

- **Machine Learning Predictions of Health Outcomes:** Developed predictive models for consumer segmentation and targeted interventions, identifying opportunities for national healthcare cost savings exceeding \$292 billion.

- **Advanced Statistical Modeling & Health Equity:** Led the design and implementation of a national study on genetic consultation referral models, uncovering key disparities and recommending interventions with the potential to improve access for over 10,000 underserved patients.
- **Propensity-Score Matched Analysis for Cost Reduction:** Designed and executed a study on the impact of intensive case management referrals, demonstrating a 5-10% reduction in healthcare costs and a 35% decrease in emergency room visits for referred patients.
- **Cardiovascular Risk Program Optimization:** Led identification and tracking of referrals and attendance for health programs targeting high-risk women, monitoring a cohort of 6,000+ patients to optimize program reach and effectiveness through data-driven insights.

Certifications

Statistical Learning with Python | Stanford University Online

March 2025

- Comprehensive training in supervised and unsupervised learning, including model selection, regularization, tree-based methods, support vector machines, deep learning, survival analysis, multiple testing, principal components, k-means clustering, and matrix completion.

Selected Publications

- Chang, E.T., Huynh, A., Yoo, C., Yoon, J., Zulman, D.M., Ong, M.K., Klein, M., Eng, J., Roy, S., Stockdale, S.E. and Jimenez, E.E., 2024. Impact of Referring High-Risk Patients to Intensive Outpatient Primary Care Services: A Propensity Score-Matched Analysis. *Journal of General Internal Medicine*, pp.1-10.
- Oberman RS, Huynh AK, Cummings K, Resnick A, Taylor SL, Bergman AA, Chang ET. Engaging healthcare teams to increase access to medications for opioid use disorder. *Health Serv Res*. 2024 Dec;59 Suppl 2(Suppl 2):e14371. doi: 10.1111/1475-6773.14371. Epub 2024 Sep 8. PMID: 39245469; PMCID: PMC11540584.
- Scheuner MT, Huynh AK, Chanfreau-Coffinier C, et al. Demographic Differences Among US Department of Veterans Affairs Patients Referred for Genetic Consultation to a Centralized VA Telehealth Program, VA Medical Centers, or the Community. *JAMA Netw Open*. 2022;5(4):e226687. doi:10.1001/jamanetworkopen.2022.6687.

Education

Ph.D. | RAND Graduate School | Policy Analysis - Quantitative Methods and Modeling

Aug 2006 – May 2011

MPH | Yale University | Healthcare Policy & Administration

Aug 2004 – May 2006

BS | Boston University | Human Physiology

Aug 1997 – May 2001