Tomás Martín León, PhD – Decision Intelligence Chief

California Department of Public Health

+1 (626) 436-4318 | tomas.leon@cdph.ca.gov

Personal Statement

I am the Decision Intelligence Chief at the California Department of Public Health (CDPH). I was hired in 2020 as the first formally trained infectious disease modeler on the only state health department modeling team in the United States. I was involved in many forecasting and analytics efforts for California's COVID-19 response, including the Regional Stay at Home Order, variant nowcasting and scenario modeling, and surveillance-based analyses of post-vaccination and reinfection COVID-19 outcomes. I became Team Lead in 2021 and hired other infectious disease modelers who have done pioneering work at CDPH applying advanced methods including AI/ML. In my role, I interact directly with our leadership and policymakers and guide our team in developing evidence to inform their decision making. I support making data and models as publicly available as possible through our Open Data Portal and public-facing state modeling website CalCAT. I also work closely with our local health jurisdictions to meet their modeling needs and collaborate frequently with other states and academic partners. Our team's portfolio continues to evolve, as we conduct modeling work on respiratory syncytial virus (RSV), West Nile virus, congenital syphilis, and hepatitis C.

Professional Positions

Decision Intelligence Chief, California Department of Public Health 2025–

- Priorities: public health operational prioritization, AI impact on public health, infectious disease modeling, health economics, academic-government partnerships

Modeling and Advanced Analytics Section, California Department of Public Health 2020–2025

Section Chief 2021–2025

- PHAME Award: Empowering Professional Growth Development (2025)
- Notable public deliverables: California Communicable diseases Assessment Tool, Public health-academic partnerships commentary, COVID-19 immunity and health outcomes *MMWR*

Statistician Modeler 2020–2021

Climate Sciences Consultant, Pacific Island Health Officers Association 2021–2025

Project: Dengue early warning systems modeling for Palau, Micronesia, and the Marshall Islands

- Supported other regional dengue preparedness exercises and outbreak responses as requested for technical assistance. Funding: US Department of State

Lecturer, School of Public Health, UC-Berkeley 2019–2022

- Introduction to GIS for Public Health (R/QGIS) – instructor of record and lecturer

Postdoctoral Researcher, School of Public Health, UC-Berkeley 2018–2020

Marshall Lab: Research on *Aedes* and *Anopheles* mosquito movement, ecology, and modeling

- Intervention focus on gene drives and *Wolbachia* for mosquito population replacement and suppression strategies to reduce and eliminate dengue and malaria burden. Field work and data focus on São Tomé and Príncipe. Funding: DARPA Safe Genes

Education

PhD in Environmental Health Sciences, University of California, Berkeley 2018

Designated Emphasis in Development Engineering

Dissertation: Elucidating Liver Fluke Transmission Dynamics: Synthesizing Lab, Field, & Modeling Methods

Advisor: Robert C. Spear

Funding: National Science Foundation Graduate Research Fellowship (2012-17); Foreign Language and Area Studies Fellowship (2015-16); Fulbright Student Research Scholarship (Thailand: 2014-15)

MS in Global Health and Environment, University of California, Berkeley 2014
Thesis: Environmental Factors Impacting Liver Fluke Transmission in Natural Waters and Aquaculture Systems (Geographic focus on Thailand and China)

- Conducted field work for MS and PhD in Thai and Chinese villages studying the transmission of the liver flukes *Opisthorchis viverrini* and *Clonorchis sinensis* in aquaculture and natural settings
- Developed hydrology-driven metapopulation disease transmission model for liver flukes in Thailand
- Planned and coordinated research experiments and lab operations with collaborators and local field teams, processing water, snail, fish, and reservoir host samples

BS in Environmental Engineering, Georgia Institute of Technology 2012
Minor in Sociology

- Presidential Scholar, ANAK Society, Outstanding Senior in Civil & Environmental Engineering

Selected Recent Peer-Reviewed Publications (2025-2026)

P. Lu, S. Jain, **T. M. León**, L.A. White (2026, *BMC Public Health*). CalCORVID: a dynamic RShiny dashboard approach to visualize spatiotemporal clusters for public health surveillance. https://doi.org/10.1186/s12889-026-26201-1

T.M. León, L.A. White, H. Spindler, et al. (2025, *American Journal of Epidemiology*). Fostering public health and academic partnerships during and beyond a public health emergency: lessons learned from COVID-19. https://doi.org/10.1093/aje/kwaf007

M. Thakur, L.A.White, J. Pugliese, D. Crow, P. Lu, N.M. Linton, R. McCorvie, S. Ravuri, H.M. Sánchez C., B. Siegel, J. Vargo, **T.M. León**, (*Frontiers in Public Health*, 2025). Keeping a modeling-driven public health dashboard relevant—lessons learned from the California Communicable diseases Assessment Tool. https://doi.org/10.3389/fpubh.2025.1658645

P.B. Shete, N. Santos, H. Spindler, **T.M. León**, et al. (2025, *Frontiers in Public Health*). Building an agile state-wide research infrastructure to address COVID-19 and emerging threats: insights from an equity-centered public health and academic collaboration in California. https://doi.org/10.3389/fpubh.2025.1549326

S. Zhu, J. Quint, **T.M. León**, et al. (2025, *The Journal of Infectious Diseases*). Estimating Influenza Vaccine Effectiveness Against Laboratory-Confirmed Influenza Using Linked Public Health Information Systems, California, 2023–2024 Season. https://doi.org/10.1093/infdis/jiaf248

A. Kwan, J. Vargo, C. Kurtz, M. Panditrao, C.M. Hoover, **T.M. León**, D. Rocha, W. Wheeler, S. Jain, E.S. Pan, P.B. Shete (2025, *PLOS ONE*). The integration of health equity into policy to reduce disparities: Lessons from California during the COVID-19 pandemic. https://doi.org/10.1371/journal.pone.0316517

S. Ravuri, E. Burnor, I. Routledge, N.M. Linton, M. Thakur, A. Boehm, M. Wolfe, H.N. Bischel, C.C. Naughton, A.T. Yu, L.A. White, **T.M. Leon** (2025). Estimating effective reproduction numbers using wastewater data from multiple sewersheds for SARS-CoV-2 in California counties. *Epidemics*, *50*, 100803. https://doi.org/10.1016/j.epidem.2024.100803

Other Experience and Professional Memberships

Memberships: Council of State and Territorial Epidemiologists (CSTE)
Committees: Forecasting & Modeling Workgroup Steering Committee (CSTE/CDC), Vector-Borne Disease Forecasting Subgroup Co-Chair (CSTE/CDC)
Peer Review: *American Journal of Epidemiology*, *PLOS NTDs*, *Open Forum Infectious Diseases*, *NEJM*, *BMC Public Health*, *Proceedings of the Royal Society B*
Languages: English – native; Spanish – basic conversational; Thai – basic conversational
Programming/Software: R, QGIS, Git, Microsoft/Google tools – proficient; Python, SQL, ArcGIS – intermediate; MATLAB, C++, Julia – basic