

Darwin Del Castillo, MD, MPH

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SCIENTIFIC EDUCATION

Master of Public Health (MPH)
University of Washington, Seattle - USA

Sep 2023 – Jun 2025

Medical Doctor (MD)
Universidad Nacional Mayor de San Marcos, Lima - Peru

Mar 2013 – Dec 2020

SKILLS

Health data science and epidemiology: data wrangling, querying, analysis, visualization & management

- SQL (MySQL), Python, R programming
- HPC (Slurm), Linux environments (bash)
- VS Code, Jupyter Lab, Quarto, Markdown, L^AT_EX, Shiny (R), GIS tools
- Team-based projects on Github and Bitbucket repositories
- Packages: tidyverse, ggplot2, meta/metafor, lme4, survival, geepack, gam, lavaan, sf, rJAGS, rstan, Pandas, Matplotlib, NumPy, MR-BRT (GBD Study estimation), amongst other tools.
- Fluency in English & Spanish
- Team work & collaboration
- Problem solving
- Science communication
- Mentorship

PROFESSIONAL EXPERIENCE

Graduate Research Assistant
Institute for Health Metrics and Evaluation
University of Washington, Seattle (USA)

Jul 2024 – Jun 2025

- Modeled epidemiological data on lower respiratory tract infections due to human metapneumovirus from 2010 to 2023 using meta-analysis information as priors and Bayesian meta-regression suites (DisMod-MR) in R.
- Analyzed data from public sources using Bayesian methods and Monte Carlo simulation to estimate the proportion of overlap between socially excluded groups in high-income countries with the rJAGS and rstan packages.
- Improved analytic scripts for electronic health records data extraction, cleaning, and analysis by developing Python functions that reduced processing time in high-performance computing contexts.

Graduate Research Assistant
Department of Global Health
University of Washington, Seattle (USA)

Jun 2024 – Mar 2025

- Synthesized clinical and research evidence into a scoping review to support the creation of indicators to guide mental health policy.
- Designed a mixed-method study protocol to assess the effectiveness of implementation strategies for pediatric burn care in a Peruvian healthcare setting.
- Crafted communication strategies with stakeholders to inform results from the mixed-methods study.

Graduate Research Assistant
Health Population Research Center
University of Washington, Seattle (USA)

Sep 2023 – Mar 2024

- Gathered sociodemographic and utilization data as part of a clinical trial post-assessment survey.
- Translated IRB submission materials from Spanish to English for the Alzheimer's Disease Research Center.
- Synthesized early engagement and outreach data into visualisation tools and summary tables, enabling program managers to make adjustments to recruitment strategies.

RWE Consultant
Health Technology Assessment and Research Institute
Social Security Health System, Lima (Peru)

Jan 2023 – Jan 2024

- Structured and consolidated multi-source health data (surveillance data, clinical studies) to generate data for health technology assessments.
- Conducted budget impact and cost-effectiveness analysis to prioritize funding for high-impact health interventions under national budgets.
- Presented data-driven recommendations and evidence summaries to policymakers and partners, supporting strategic purchasing decisions for the Social Security System.

- Performed data curation, wrangling, and harmonization for multiple longitudinal cohort studies, processing complex datasets with 8+ years of follow-up data using R and SQL to ensure data integrity, standardization across multiple collection waves, and timely access for interdisciplinary research teams.
- Conducted real-world evidence synthesis and preliminary data analyses to support grant proposals for hypertension, diabetes, cancer, and multimorbidity studies.
- Co-authored peer-reviewed manuscripts as part of international collaborations, communicating complex analytical findings for academic and lay audiences.

ADDITIONAL EDUCATION

Professional Certificate in Clinical Research
Universidad Peruana Cayetano Heredia, Lima - Peru

Sep 2021 – Apr 2022

OTHER PROFESSIONAL ACTIVITIES

Teaching

- Mar 2025 – current **Lecturer: Introduction to Epidemiology.** Universidad Científica del Sur. I teach three sections of ~15 fourth-year medical students each, focusing on basic clinical epidemiology concepts, including study designs, bias identification, & basic epidemiological surveillance concepts.
- Mar 2024 – Jun 2024 **Teaching Assistant: Introduction to Molecular and Cellular Biology.** University of Washington. Led two laboratory practice sessions with ~25 undergraduate students each, covering fundamental molecular and cellular biology experiments.

Mentoring

Undergraduate thesis

- Fátima Sánchez Diaz and Nicole Ravines Layza, “Barriers and facilitators for mental health screening at family planning centers from low-and-middle income countries”, Universidad Científica del Sur, Peru (2024 to Present).

PUBLICATIONS ORCID: 0000-0002-8609-0312

Peer-reviewed publications

- Bazo-Alvarez, J.C., **Del Castillo, D.**, Piza, L., Bernabe-Ortiz, A., Carrillo-Larco, R.M., Smeeth, L., Gilman, R.H., Checkley, W., Miranda, J.J. (2024) “Multimorbidity patterns, sociodemographic characteristics, and mortality: Data science insights from low-resource settings” **Am J Epidemiol.** kwae466: Online ahead of print. Available at: [10.1093/aje/kwae466](https://doi.org/10.1093/aje/kwae466)
- Vidyasagaran, AL., Ayesha, R., Boehnke, JR., [...], **Del Castillo Fernández, D.**, [...], Zavala, GA., Zhao, YW., Siddiqi, N. (2024) “Core outcome sets for trials of interventions to prevent and to treat multimorbidity in adults in low and middle-income countries: the COSMOS study” **BMJ Glob Health.** 9(8):e015120. Available at: [10.1136/bmjgh-2024-015120](https://doi.org/10.1136/bmjgh-2024-015120)
- Lapidaire, W., Proaño, A., Blumenberg, C., Loret de Mola, C., Delgado, CA., **Del Castillo, D.**, Wehrmeister, FC., Gonçalves, H., Gilman, RH., Oberhelman, RA., Lewandowski, AJ., Wells, JCK., Miranda, JJ. (2023) “Effect of preterm birth on growth and blood pressure in adulthood in the Pelotas 1993 cohort” **Int J Epidemiol.** 25;52(6):1870-1877. Available at: [10.1093/ije/dyad084](https://doi.org/10.1093/ije/dyad084)
- **Del Castillo-Fernández, D.**, Brañez-Condorena, A., Villacorta-Landeo, P., Saavedra-García, L., Bernabé-Ortiz, A., Miranda, JJ. (2021) “[Advances in the investigation of chronic non-communicable diseases in Peru] (in Spanish)” **An Fac med.** 81(4): 444-452. Available at: [10.15381/anales.v81i4.18798](https://doi.org/10.15381/anales.v81i4.18798)

Conference abstracts

- Valverde, N., Santivanez, M., Tello, M., and **Del Castillo, D.** (2025) “[Beyond abortion: A mixed methods study on the factors that condition access and use of post-abortion contraceptives in Peruvian women] (in Spanish)” **ICFP 2025**