Darwin Del Castillo, MD, MPH

in darwin-del-castillo   ✉ ddelcastillo.f@gmail.com   ⚙ ddelcastillof

SCIENTIFIC EDUCATION

Master of Public Health (MPH)   **Sep 2023 − Jun 2025**
University of Washington, Seattle - USA

Medical Doctor (MD)   **Mar 2013 − Dec 2020**
Universidad Nacional Mayor de San Marcos, Lima - Peru

SKILLS

Broad experience in the health data lifecycle: data collection, management, wrangling, querying, analysis, & visualisation.

- SQL (MySQL), Python, R, Stata
- HPC (Slurm), Linux environments (bash)
- VS Code, Jupyter Notebook, Quarto, Markdown, LaTeX, Shiny (R), GIS tools, REDCap, Office 365 Suite
- Data Standards: HIPAA, UK GDPR, DPA 2018
- Team-based projects on Github and Bitbucket
- 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
- Teamwork & collaboration
- Problem solving
- Science communication
- Mentorship

PROFESSIONAL EXPERIENCE

Graduate Research Assistant   **Jul 2024 − Jun 2025**
Institute for Health Metrics and Evaluation
University of Washington, Seattle (USA)

- Developed informative Bayesian priors for a Bayesian hierarchical meta-regression model to estimate prevalence, incidence, and clinical-outcome occurrence of lower-respiratory-tract infections across 80 countries, informing GBD 2025 inputs.
- Executed a Gibbs sampler using data from a meta-analysis to estimate the proportion of overlap between socially excluded groups in 22 high-income countries.
- Estimated population-attributable fractions and standardised mortality ratios for socially excluded groups in 22 high-income countries.

Graduate Research Assistant   **Jun 2024 − Mar 2025**
Department of Global Health
University of Washington, Seattle (USA)

- Coordinated a pragmatic mixed-methods study to explore barriers and facilitators in >10 low-resource Peruvian hospitals.
- Designed and deployed the electronic CRF and wrote the data-management plan to manage input data from the mixed-methods study, solving 350+ data entry queries during project deployment.
- Co-developed communication strategies with stakeholders to disseminate complex findings among healthcare policymakers.

Graduate Research Assistant   **Sep 2023 − Mar 2024**
Health Population Research Center
University of Washington, Seattle (USA)

- Maintained and stored sociodemographic and utilisation data as part of a clinical trial post-assessment survey using electronic data capture platforms.
- Translated IRB submission materials from Spanish to English for the Alzheimer's Disease Research Center.
- Analysed engagement and outreach data into visualisation tools and summary tables, enabling programme managers to make adjustments to recruitment strategies.

RWE Consultant **Jan 2023 − Jan 2024**

HEALTH TECHNOLOGY ASSESSMENT AND RESEARCH INSTITUTE
SOCIAL SECURITY HEALTH SYSTEM, LIMA (PERU)

- Integrated surveillance and clinical data into statistical burden models to support national health technology assessment and prioritisation processes.
- Conducted budget impact and cost-effectiveness analysis to prioritise funding for high-impact health interventions under national budgets.
- Synthesised results from these models into evidence summaries to policymakers and health practitioners, supporting strategic purchasing decisions for the Peruvian Social Security System.

Research Assistant **Mar 2019 − Aug 2023**

CRONICAS CENTER OF EXCELLENCE IN CHRONIC DISEASES
UNIVERSIDAD PERUANA CAYETANO HEREDIA, LIMA (PERU)

- Resolved and stored harmonised datasets across 8+ years of longitudinal and clinical trial data using R and REDCap, enabling consistent analytics and timely access for interdisciplinary research teams.
- Analysed real-world evidence and conducted preliminary analyses that strengthened proposals targeting hypertension, diabetes, cancer, and multimorbidity, securing \$300 k in competitive funding.
- Co-authored 5 peer-reviewed manuscripts as part of international collaborations, communicating epidemiological findings for academic and lay audiences.

ADDITIONAL EDUCATION

Professional Certificate in Clinical Research **Sep 2021 − Apr 2022**

UNIVERSIDAD PERUANA CAYETANO HEREDIA, LIMA - PERU

TEACHING 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 the integrated provision of mental health and family planning services in patients with severe mental illness from low-and middle-income countries. A Rapid Review Assessment", Universidad Científica del Sur (2024 to Current).

LICENSURE AND CERTIFICATION

2024	National Registry of Investigators, RENACYT-CONCYTEC, Investigator Level VII (P0160977)

2023 & CITI Program, Good Clinical Practice and ICH, Credential ID 65079238 \ **2023** & CITI Program, Human Subjects Learners, Credential ID 65079240 \ **2023** & CITI Program, Biomedical Responsible Conduct of Research, Credential ID 65079239 \ **2021** & Peruvian College of Physicians, Membership No. 94534 \

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
- 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
- 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
- **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
- **Del Castillo, D.**, Bernabe-Ortiz, A., Gilman, R.H., Sharma, M., Nugent, R., Miranda J.J. (2025) "Cost-effectiveness analysis of a household salt substitute intervention on reducing community-wide blood pressure in Northern Peru" **Lancet Reg Health Am.** Submitted under consideration.

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)" **VII International Conference on Family Planning** The William H. Gates Sr. Institute for Population and Reproductive Health., Bogota, Colombia