Darwin Del Castillo, MD, MPH

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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.

- **Programming:** SQL (MySQL), Python, R, Stata
- **Cloud Computing:** HPC (Slurm), Linux environments (bash)
- **Tools:** VS Code, Jupyter, Quarto, Markdown, LaTeX, Shiny (R), REDCap
- **Version control:** Git (GitHub, Bitbucket)
- **Libraries and packages:** tidyverse, ggplot2, lme4, survival, geepack, gam, lavaan, sf, rJAGS, rstan, meta/metafor, Pandas, NumPy, Matplotlib, MR-BRT (GBD Study estimation)

- 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   Seattle - USA

- Developed 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 standardized mortality ratios using the overlap between socially-excluded groups.

Graduate Research Assistant   **Jun 2024 – Mar 2025**
Department of Global Health – University of Washington   Seattle - USA

- Designed a study protocol to assess the effectiveness of implementation strategies for pediatric burn care in a Peruvian healthcare setting.
- Coordinated a mixed-methods study to explore barriers and facilitators in >10 low-resource Peruvian hospitals.
- Co-developed communication strategies with 2 stakeholder organizations 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 utilization 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.
- Analyzed engagement and outreach data into visualization tools and summary tables, enabling program managers to make adjustments to recruitment strategies.

RWE Consultant   **Jan 2023 – Jan 2024**
Health Technology Assessment and Research Institute   Lima – Peru

- Integrated surveillance and clinical data from 80 Peruvian hospitals into statistical burden models to support national health technology assessment and prioritization processes.
- Conducted budget impact and cost-effectiveness models that prioritized oncological interventions worth $1 M+.
- Synthesized findings into executive reports aimed at policymakers and partners, guiding reimbursement policy for Peru's Social Security System.

Research Assistant   **Mar 2019 − Aug 2023**
CRONICAS Center of Excellence in Chronic Diseases   Lima − Peru

- Coordinated 2 workshops per site with community health workers in 3 Peruvian regions to co-design a mobile application for early detection of cognitive impairment.
- Contributed to research grant proposals in noncommunicable disease epidemiology by conducting preliminary data analysis on clinical, demographic, and biological biomarkers, supporting proposals worth $300 k in competitive funding.
- Co-authored 5 scientific manuscripts which included longitudinal data analyses, systematic reviews, and machine learning models.

ADDITIONAL EDUCATION

Professional Certificate in Clinical Research   **Sep 2021 − Apr 2022**
Universidad Peruana Cayetano Heredia, Lima - Peru

TEACHING PROFESSIONAL ACTIVITIES

Teaching

Lecturer   **Mar 2025 − Current**
School of Medicine − Universidad Científica del Sur   Lima − Peru
Introduction to Epidemiology: 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.

Teaching Assistant   **Mar 2024 − Jun 2024**
College of Arts & Sciences − University of Washington   Seattle − USA
Introduction to Molecular and Cellular Biology: 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 Cientifica 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

PUBLICATIONS   ORCID: 0000-0002-8609-0312

Peer-reviewed publications

- **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
- 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
- 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
- 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)" <u>**An Fac med.**</u> 81(4): 444-452. Available at: 10.15381/anales.v81i4.18798

Conference abstracts

- Valverde, N., Santivañez, 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)" <u>**VII International Conference on Family Planning**</u> The William H. Gates Sr. Institute for Population and Reproductive Health., Bogota, Colombia