

# Darwin Del Castillo, MD, MPH

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## EDUCATION

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**Master of Public Health (MPH) – Epidemiology**  
UNIVERSITY OF WASHINGTON

**Sep 2023 – Jun 2025**  
SEATTLE - USA

**Medical Doctor (MD)**  
UNIVERSIDAD NACIONAL MAYOR DE SAN MARCOS

**Mar 2014 – Dec 2020**  
LIMA - PERU

## SKILLS

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**Programming:** SQL (MySQL), Python, R, Stata

**Cloud Computing:** Slurm HPC, Docker, Linux environments (bash)

**Tools:** VS Code, Jupyter, Quarto, L<sup>A</sup>T<sub>E</sub>X, Shiny (R), Git version control (GitHub, Bitbucket)

**Data Standards:** HIPAA, HL7 FHIR, GDPR, UK GDPR, DPA 2018

**Statistical Modeling:** tidyverse, Pandas, ggplot2, lme4, survival, geepack, gam, rJAGS, rstan, metafor, , NumPy, Matplotlib, MR-BRT (GBD Study estimation)

**Languages:** English (fluent), Spanish (native)

**Core Competencies:** Data analysis, teamwork, problem solving, science communication, mentorship

## PROFESSIONAL EXPERIENCE

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**Graduate Research Assistant**  
INSTITUTE FOR HEALTH METRICS AND EVALUATION

**Jul 2024 – Jun 2025**  
SEATTLE - USA

- Developed hyperparameters for a Bayesian hierarchical meta-regression model to estimate prevalence, incidence, and clinical outcomes of lower-respiratory-tract infections across 80 countries.
- Executed a MCMC algorithm with data-driven priors to estimate the overlap among inclusion health populations in 22 high-income countries to compute population-attributable fractions and standardized mortality ratios.
- Executed ML algorithms on EHR data extraction from 2 countries with 60+ million records to build population-level summaries per age and sex groups, including simulation-based scenario testing.

**Graduate Research Assistant**  
DEPARTMENT OF GLOBAL HEALTH – UNIVERSITY OF WASHINGTON

**Sep 2023 – Jun 2024**  
SEATTLE - USA

- Designed the study protocol and coordinated a mixed-methods evaluation of implementation strategies for pediatric burn care across >10 low-resource Peruvian hospitals.
- Co-developed communication strategies with 2 stakeholder organizations to translate complex findings for healthcare policymakers.
- Conducted a systematic review to assess mental health policy implementation indicators in low-and middle-income countries as part of a consultancy for an international NGO.

**Health Economics Consultant**  
HEALTH TECHNOLOGY ASSESSMENT AND RESEARCH INSTITUTE

**Jan 2023 – Jan 2024**  
LIMA – PERU

- Harmonised claims and inpatient EHR-data from +50 hospitals within a trusted research environment to provide comprehensive insights into healthcare outcomes.
- Executed budget impact and cost-effectiveness models that prioritized oncological interventions worth \$1 M+.
- Synthesised systematic review/evidence synthesis and statistical estimates from EHR data into executive reports, guiding reimbursement policy for Peru's Social Security System.

**Research Assistant**  
CRONICAS CENTER OF EXCELLENCE IN CHRONIC DISEASES

**Mar 2019 – Aug 2023**  
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 and dementia.
- Analyzed longitudinal data using generalised linear methods and survival curves to support research grant proposals in noncommunicable disease epidemiology by conducting preliminary data analysis on clinical, demographic, and biological biomarkers.
- Co-authored 5 scientific manuscripts, which included longitudinal data analyses and machine learning models.

## ADDITIONAL EDUCATION

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**Professional Certificate in Clinical Research**  
UNIVERSIDAD PERUANA CAYETANO HEREDIA

**Sep 2021 – Apr 2022**  
LIMA - PERU

## TEACHING PROFESSIONAL ACTIVITIES

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### 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 Científica del Sur (2024 to Current).

## LICENSURE AND CERTIFICATION

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<b>2024</b>	National Registry of Investigators, RENACYT-CONCYTEC, Investigator Level VII (P0160977)
<b>2023</b>	CITI Program, Good Clinical Practice and ICH, Credential ID 65079238
<b>2023</b>	CITI Program, Human Subjects Learners, Credential ID 65079240
<b>2023</b>	CITI Program, Biomedical Responsible Conduct of Research, Credential ID 65079239
<b>2021</b>	Peruvian College of Physicians, Membership No. 94534

## PUBLICATIONS ORCID: 0000-0002-8609-0312

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### 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](https://doi.org/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](https://doi.org/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](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., 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)” **VII International Conference on Family Planning** The William H. Gates Sr. Institute for Population and Reproductive Health., Bogota, Colombia