

Darwin Del Castillo, MD, MPH

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EDUCATION

Master of Public Health (MPH)
UNIVERSITY OF WASHINGTON

Sep 2023 – Jun 2025
SEATTLE – USA

Doctor of Medicine (MD)
UNIVERSIDAD NACIONAL MAYOR DE SAN MARCOS

Mar 2014 – Aug 2021
LIMA – PERU

ADDITIONAL EDUCATION

Professional Certificate in Clinical Research
UNIVERSIDAD PERUANA CAYETANO HEREDIA

Sep 2021 – Apr 2022
LIMA – PERU

PROFESSIONAL EXPERIENCE

Research Scientist
UW MEDICINE DIABETES INSTITUTE – BJORNSTAD LAB

Jul 2025 – Nov 2025
SEATTLE - USA

- Applied Cox proportional hazards models and differential expression analysis to metabolomic data to quantify diabetic complication risk and cardio-kidney-metabolic syndrome progression in youth-onset type 2 diabetes participants.
- Performed a network analysis using MetaboAnalyst to identify key metabolic pathways associated with CKM progression on youth-onset type 2 diabetes participants.

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-outcome occurrence of lower respiratory tract infections across 80 countries.
- Executed an MCMC using data-driven priors and uncertainty propagation to estimate the probabilistic overlap between inclusion health groups in 22 high-income countries.
- Estimated population-attributable fractions and standardized mortality ratios using the overlap between inclusion health groups.

Graduate Research Assistant
DEPARTMENT OF GLOBAL HEALTH – UNIVERSITY OF WASHINGTON

Jun 2024 – Mar 2025
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
HEALTH POPULATION RESEARCH CENTER – UNIVERSITY OF WASHINGTON

Sep 2023 – Mar 2024
SEATTLE - USA

- Maintained and stored sociodemographic and utilization data as part of a clinical trial post-assessment survey on school-age children 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 from clinical trials into visualization tools and summary tables, enabling program managers to make adjustments to recruitment strategies.

Research Consultant
HEALTH TECHNOLOGY ASSESSMENT AND RESEARCH INSTITUTE

Jan 2023 – Jan 2024
LIMA – PERU

- Integrated surveillance and clinical data from 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 over \$1 M+.
- Synthesized findings into executive reports aimed at policymakers and partners, guiding reimbursement policy for Peru's Social Security System.

- 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 for pediatric and adult populations by conducting preliminary data analysis of clinical and demographic data, supporting research proposals.
- Co-authored 5 scientific manuscripts, including longitudinal data analyses, systematic reviews, and machine learning models.

SKILLS

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

Programming languages: R, Python, C++, Stata, SQL (MySQL)

Cloud Computing: Slurm HPC, Containerization (Docker/Apptainer), Linux environments (bash)

Tools: VS Code, Jupyter, Quarto, L^AT_EX, Shiny (R), Git version control (GitHub, Bitbucket)

Packages: tidyverse, ggplot2, sf, survey, lme4, survival, cmprsk, mice, geepack, metafor, rstan, crosswalk, pandas, NumPy, Matplotlib, pytest, MR-BRT

Languages: English (fluent), Spanish (native)

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

ACADEMIC HONOURS AND AWARDS

Young Lives Study Methodological Workshop Scholarship, GROUP FOR THE ANALYSIS OF DEVELOPMENT (GRADE) – Peru **Jun 2018**

Medical School Graduation with Honors (*Cum Laude*) (Grade: 17/20), UNIVERSIDAD NACIONAL MAYOR DE SAN MARCOS SCHOOL OF MEDICINE – Peru **Aug 2021**

Professional Certificate in Clinical Research Fogarty Scholarship, UNIVERSIDAD PERUANA CAYETANO HEREDIA SCHOOL OF PUBLIC HEALTH – Peru **Sep 2021**

Department of Global Health Endowed Fellowship for Global Health Excellence, Equity and Impact, UNIVERSITY OF WASHINGTON DEPARTMENT OF GLOBAL HEALTH – USA **Feb 2024**

RESEARCH AND TEACHING

Research Support

Concluded Research Support

Funder: National Institutes of Health (NIH), Fogarty International Center (FIC)
Project Code: D43TW001140
Title: Training in Infectious Diseases in Peru - Time for Implementation Research
Investigators: Garcia, HH., Gilman, RH., Gimbel, S.
Period: 09/2021 – 08/2022
Budget: \$294,960
Role: Fellow

Teaching and Lecturer Contributions

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

COLLEGE OF ARTS & SCIENCES – UNIVERSITY OF WASHINGTON

INTRODUCTION TO MOLECULAR AND CELLULAR BIOLOGY: Led two laboratory practice sessions with ~25 undergraduate students each, covering fundamental molecular and cellular biology experiments.

Mar 2024 – Jun 2024

SEATTLE – USA

Advising

Undergraduate Students

- 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, Peru (2024 – Current).

PUBLICATIONS

ORCID: 0000-0002-8609-0312

Google Scholar Statistics:

Citations 69 | h-index 4 | i10-index 1

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
- Lupton, C., Wang, C., **Del Castillo, D.**, Lei, J., Suba, J., Gillespie, K., Maslova, K., Qiao, L., Fageras, M., Pasovic, M., Rafferty, Q., Ewald, S. (2025) “Global viral lower respiratory disease episodes, hospitalizations, and clinical manifestations by aetiology, 2010-2021” **Lancet Infect Dis.** Submitted under consideration
- Vidyasagar, A.L., Ayesha, R., Boehnke, J.R., [...], **Del Castillo Fernández, D.**, [...], Zavala, G.A., Zhao, Y.W., 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, C.A., **Del Castillo, D.**, Wehrmeister, F.C., Gonçalves, H., Gilman, R.H., Oberhelman, R.A., Lewandowski, A.J., Wells, J.C.K., Miranda, J.J. (2023) “Effect of preterm birth on growth and blood pressure in adulthood in the Pelotas 1993 cohort” **Int J Epidemiol.** 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, J.J. (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

Thesis and Dissertations

- **Del Castillo-Fernandez D.** (2025) “Cost-effectiveness analysis of a household salt substitute intervention on reducing community-wide blood pressure in Northern Peru” **Master Thesis** University of Washington, USA.
- **Del Castillo-Fernandez D.** (2021) “Childhood Obesity and Its Effect on Academic Achievement: An Analysis of the Young Lives Study Between 2009 and 2016” **Undergraduate Thesis** Universidad Nacional Mayor de San Marcos, Perú.

White Papers

- **Del Castillo-Fernández D.** (2023) “Efficacy and safety of liraglutide for the treatment of patients older than 18 years with moderate obesity without comorbidities and mild obesity associated with comorbidities. Health Technology Assessment – Preliminary Version” IETSI – EsSalud. Lima, Peru
- **Del Castillo-Fernández D.** (2023) “Efficacy and safety of ceftazidime-avibactam for the treatment of adult patients with bacteremia due to surgical wound infection by carbapenemase-producing Enterobacteriaceae. Health Technology Assessment – Preliminary Version.” IETSI – EsSalud. Lima, Peru
- **Del Castillo-Fernández D.** (2023) “Efficacy and safety of cladribine for the treatment of adult patients with relapsing-remitting multiple sclerosis. Health Technology Assessment – Short Version.” IETSI – EsSalud. Lima, Peru

LICENSURE AND CERTIFICATION

National Registry of Investigators (RENACYT-CONCYTEC), Investigator Level VII (P0160977)	2024
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	2023
Peruvian Medical Board, License No. 94534	2021

MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS

- International Epidemiological Association (2020 - Current)
- Peruvian College of Physicians (2021 - Current)
- Consortium of Universities for Global Health (2023 - Current)
- America's Network for Chronic Disease Surveillance (2025 - Current)
- Global Burden of Disease Study Collaborator (2025 – Current)