

# Darwin Del Castillo, MD, MPH

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## EDUCATION

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**Master of Public Health (MPH)**  
UNIVERSITY OF WASHINGTON, USA

Sep 2023 – Jun 2025

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

Mar 2013 – Dec 2020

## ADDITIONAL EDUCATION

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**Professional Certificate in Clinical Research**  
UNIVERSIDAD PERUANA CAYETANO HEREDIA, LIMA - PERU

Sep 2021 – Apr 2022

## PROFESSIONAL EXPERIENCE

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**Graduate Research Assistant**  
INSTITUTE FOR HEALTH METRICS AND EVALUATION  
UNIVERSITY OF WASHINGTON, SEATTLE - USA

Jul 2024 – Jun 2025

- Modeling epidemiological data of lower respiratory tract infections due to human metapneumovirus from 2010 to 2023 using meta-analysis information in R and Bayesian meta-regression suites (DisMod-MR).
- Analyzed data from public sources using Bayesian methods and Monte Carlo simulation to estimate the overlap proportion between socially excluded groups in high-income countries using the packages rJAGS and rstan.
- Estimated population-attributable fractions and standardized mortality ratios for socially excluded groups in high-income countries.

**Graduate Research Assistant**  
DEPARTMENT OF GLOBAL HEALTH  
UNIVERSITY OF WASHINGTON, SEATTLE - USA

Jun 2024 – Mar 2025

- Conducted a scoping review protocol and performed evidence synthesis for mapping potential indicators for implementing mental health policy in data-limited settings.
- 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**  
DEPARTMENT OF HEALTH SYSTEMS AND POPULATION HEALTH  
UNIVERSITY OF WASHINGTON, SEATTLE - USA

Sep 2023 – Dec 2023

- Gathered sociodemographic and utilization data as part of a clinical trial post-assessment survey through on-phone interviews.
- Translated IRB submissions 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.

**Research 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 assessments 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.

## Research Assistant

Mar 2019 – Aug 2023

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

- Coordinated focus groups and on-field work across four Peruvian regions to co-design an intervention for patients with cognitive impairment and their caregivers.
- Contributed to research grant proposals in hypertension, diabetes, cancer, and multimorbidity projects by conducting systematic reviews and preliminary data analysis.
- Co-authored scientific manuscripts in the topics mentioned above which included longitudinal data analyses, meta-analyses, and unsupervised machine learning methods.

## SKILLS

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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<sup>A</sup>T<sub>E</sub>X, 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

## ACADEMIC HONOURS AND AWARDS

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Young Lives Study Methodological Workshop Scholarship, GROUP FOR THE ANALYSIS OF DEVELOPMENT (GRADE) – Peru	<b>Jun 2018</b>
Medical School Graduation with Honors ( <i>Cum Laude</i> ) (Grade: 17/20), UNIVERSIDAD NACIONAL MAYOR DE SAN MARCOS SCHOOL OF MEDICINE – Peru	<b>Aug 2021</b>
Professional Certificate in Clinical Research Fogarty Scholarship, UNIVERSIDAD PERUANA CAYETANO HEREDIA SCHOOL OF PUBLIC HEALTH – Peru	<b>Sep 2021</b>
Department of Global Health Endowed Fellowship for Global Health Excellence, Equity and Impact, UNIVERSITY OF WASHINGTON DEPARTMENT OF GLOBAL HEALTH – USA	<b>Feb 2024</b>

## RESEARCH AND TEACHING

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### 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: 294960  
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

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.

## 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

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### Google Scholar Statistics:

Citations 62 | h-index 4 | i10-index 1

### 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)” **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.** (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.
- 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.

### 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**

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

**MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS**

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- 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)