

# Darwin Del Castillo, MD, MPH

 [darwin-del-castillo](#)

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## EDUCATION

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**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

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

**Sep 2021 – Apr 2022**  
LIMA – PERU

## PROFESSIONAL EXPERIENCE

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**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

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

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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

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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: \$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).

### Peer-Review Contributions

Journal SSM - Population Health

## PUBLICATIONS

ORCID: 0000-0002-8609-0312

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### Google Scholar Statistics:

Citations 72 | 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
- Vidyasagaran, 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

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National Registry of Investigators (RENACYT-CONCYTEC), Investigator Level VII (P0160977)	<b>2024</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>2023</b>
Peruvian Medical Board, License No. 94534	<b>2021</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)
- Global Burden of Disease Study Collaborator (2025 – Current)