

Darwin Del Castillo, MD, MPH

 [darwin-del-castillo](#)

 ddelcastillo.f@gmail.com

 [ddelcastillof](#)

SCIENTIFIC EDUCATION

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

Sep 2023 – Jun 2025

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

Mar 2013 – Dec 2020

SKILLS

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

- SQL (MySQL), Python, R, Stata
- Machine learning: PyTorch, TensorFlow/Keras, scikit-learn; basic self-supervised and probabilistic methods
- Data engineering and pipelines: Apache Spark/PySpark, Airflow, dbt, Pandas
- Cloud & compute: AWS SageMaker, Docker, Slurm HPC, CUDA
- Experiment tracking: MLflow, Weights & Biases
- Wearable & CGM signal processing: HeartPy, NeuroKit2, SciPy; `cgmanalysis` (R), `cgmquantify` (Python)
- Data standards: HIPAA, HL7 FHIR, GDPR / UK GDPR + DPA 2018
- Tools: VS Code, Jupyter, Quarto, \LaTeX ; Git version control
- Fluency in English & Spanish
- Teamwork & collaboration
- Problem solving
- Science communication
- Mentorship

PROFESSIONAL EXPERIENCE

Graduate Research Assistant
Institute for Health Metrics and Evaluation
University of Washington, Seattle (USA)

Jul 2024 - Jun 2025

- Conducted a comprehensive meta-analysis of lower respiratory tract infection rates across 80 countries using the R meta package to support strategic program planning; presented findings with ROI-style visual summaries to senior leadership.
- Developed and executed Bayesian MCMC workflows to quantify the overlap among homeless populations, substance users, and incarcerated individuals across 22 high-income countries, producing real-world evidence for targeted health burden stratification.
- Updated version-controlled scripts to automate data quality checks of EHR datasets from Ecuador and Colombia; identified root causes of data anomalies, reducing error rates by 23

Graduate Research Assistant
Department of Global Health
University of Washington, Seattle (USA)

Jun 2024 - Mar 2025

- Synthesized clinical and programmatic evidence into actionable insights and reports to support program design and policy decisions in mental health.
- Analyzed pediatric clinical and outcome data to evaluate effectiveness of burn injury interventions; compiled initiative-level monthly performance reports for Ministry of Health and hospital leadership to inform protocol refinements.
- Engaged with Ministry of Health officials and hospital stakeholders to align pediatric burn care strategies with national healthcare priorities.

Graduate Research Assistant
Health Population Research Center
University of Washington, Seattle (USA)

Sep 2023 - Mar 2024

- Implemented standardized remote data-collection workflows to capture patient-reported outcomes.
- Managed full lifecycle of IRB submissions—including translation and localization of Spanish-language documents—for the Alzheimer's Disease Research Center, ensuring compliance with regulatory requirements.
- Synthesized weekly/monthly engagement and outreach data into interactive Shiny dashboards and concise summary reports for program managers and stakeholders, enabling timely strategic recruitment adjustments.

RWE Consultant

Jan 2023 - Jan 2024

**Health Technology Assessment and Research Institute
Social Security Health System, Lima (Peru)**

- Structured and consolidated multi-source health data (surveillance, clinical studies) to provide comprehensive insights into healthcare outcomes.
- 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.

**Research Assistant
CRONICAS Center of Excellence in Chronic Diseases
Universidad Peruana Cayetano Heredia, Lima (Peru)**

Mar 2019 - Aug 2023

- Led stakeholder workshops and focus groups across four regions to co-design patient-centered interventions, translating qualitative insights into quantifiable outcome metrics.
- Conducted real-world evidence synthesis and preliminary data analyses to support program proposals in hypertension, diabetes, and multimorbidity, informing strategic funding decisions.
- Co-authored evidence summaries and reports, translating analytical findings into executive-ready deliverables for program managers and health policy audiences.

ADDITIONAL EDUCATION

**Professional Certificate in Clinical Research
Universidad Peruana Cayetano Heredia, Lima - Peru**

Sep 2021 – Apr 2022

TEACHING PROFESSIONAL ACTIVITIES

Teaching

- Mar 2025 – current** **Lecturer: Introduction to Epidemiology.** UNIVERSIDAD CIENTÍFICA DEL SUR. 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.
- Mar 2024 – Jun 2024** **Teaching Assistant: Introduction to Molecular and Cellular Biology.** UNIVERSITY OF WASHINGTON. 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

2021	Peruvian College of Physicians, Membership No. 94534
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
2024	National Registry of Investigators, RENACYT-CONCYTEC, Investigator Level VII (P0160977)

PUBLICATIONS ORCID: 0000-0002-8609-0312

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)
- **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.

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