

## Darwin Del Castillo, MD, MPH

LinkedIn: [darwin-del-castillo](#)

Email: [ddelcastillo.f@gmail.com](mailto:ddelcastillo.f@gmail.com)

GitHub: [github.com/ddelcastillof](https://github.com/ddelcastillof)

### SCIENTIFIC EDUCATION

---

**Master of Public Health (MPH) – Epidemiology**  
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

---

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

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

**Tools:** VS Code, Jupyter, Quarto, L<sup>A</sup>T<sub>E</sub>X, Git version control

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

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

**Packages:** *R* (tidyverse, ggplot2, rJAGS, rstan, SummarizedExperiment, MultiAssayExperiment, GenomicRanges, biomaRt, VariantAnnotation, SNPRelate, mixOmics, xcms, MSnbase, CAMERA, sva/ComBat EnhancedVolcano); *Python* (Pandas, Matplotlib, NumPy, scikit-allel, pysam, pybedtools).

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

### PROFESSIONAL EXPERIENCE

---

**UW Medicine Diabetes Institute**  
Research Scientist

Seattle - USA  
Sep 2024 – Current

- Conduct longitudinal metabolomics analyses for the TODAY and TODAY2 cohorts, leveraging ~10 years of follow-up in youth-onset type 2 diabetes to model metabolite trajectories and cardiometabolic disease progression.
- Define and operationalise cardio-kidney-metabolic (CKM) syndrome progression categories as clinical outcomes into the TODAY samples, quantifying associations with metabolite using mixed-effects and multinomial/ordinal models.
- Lead a cross-cohort multi-omics analysis across ARIC, UK Biobank, PURE Latin America, and HELIUS to estimate associations between CKM syndrome and omic features.
- Specify clinically relevant phenotypes for obesity- and liver-related metabolic disease and design association analyses in large cohorts (e.g., UK Biobank).
- Build reproducible R/Python workflows on HPC (Slurm/Linux) for data cleaning, batch correction, feature engineering, multiple-testing control, and sensitivity analyses, producing publication-ready figures and tables.

**Institute for Health Metrics and Evaluation**  
Graduate Research Assistant

Seattle - USA  
Jul 2024 – Jun 2025

- Designed and led epidemiological studies using large-scale datasets; delivered medically relevant findings through country-comparative meta-analyses and decision-focused reports for leadership.
- Built Bayesian MCMC workflows to estimate overlap among inclusion-health populations across 22 high-income countries, informing phenotype definition and downstream burden estimation.
- Productionised version-controlled R pipelines for EHR data quality assessment (Git/HPC), diagnosing anomalies and improving reliability across ~30 million records.

**Health Technology Assessment and Research Institute**  
Real-World-Evidence Consultant

Lima - Peru  
Jan 2023 – Jan 2024

- Structured and consolidated multi-source health data (surveillance, clinical studies) to generate real-world evidence for priority setting in chronic and cardiometabolic disease.
- Conducted budget impact and cost-effectiveness assessments to inform reimbursement and strategic purchasing decisions under national budgets.
- Synthesised evidence into executive-ready briefs for policymakers and clinical partners, emphasising quantitative strength of evidence and uncertainty.

- Led stakeholder workshops and focus groups to co-design patient-centred interventions; translated qualitative insights into measurable cardiometabolic outcomes.
- Conducted real-world evidence synthesis and cohort analyses in hypertension, diabetes, and multimorbidity, supporting grant proposals and programme design.
- Co-authored evidence summaries and reports for policy audiences, communicating complex analyses clearly to non-technical stakeholders.

## ADDITIONAL EDUCATION

---

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

Sep 2021 – Apr 2022

## LICENSURE AND CERTIFICATION

---

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

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

---

### 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
- 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.** 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, 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