

# NGHA NDZE MBUH

Data Lead · Global Health Informatics · First-author evidence behind WHO's 9 March 2026 TB recommendations

Bamenda, Cameroon · Open to global relocation

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## PROFILE

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First and corresponding author of the 2026 openRxiv preprint on pooled sputum testing — **71,328 specimens across 16 GeneXpert laboratories in Cameroon · \$2.81 per pooled result vs \$7.97 individual** — whose findings sit at the core of the **World Health Organization's 9 March 2026 recommendation** to adopt sputum pooling for TB diagnosis. Data Lead at the Bamenda Center for Health Promotion and Research, running production data systems behind **27+ active TB and HIV research projects** across Cameroon, Nigeria, and Vietnam in partnership with Stop TB Partnership, Unitaid, LSTM, and the GHIT Fund. Accounting-trained (MSc, First-Class BSc, FMVA, CBCA, BIDA) — a rare bridge between health economics and implementation data.

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## SELECTED ACHIEVEMENTS

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- **First & corresponding author**, 2026 openRxiv preprint on TB sputum pooling ([DOI 10.64898/2026.03.20.26348676](https://doi.org/10.64898/2026.03.20.26348676)) — **core evidence stream for the WHO 9 March 2026 TB diagnostic recommendations**; explicitly credited by LSTM and Stop TB Partnership on 27 February 2026.
  - **Three peer-reviewed / preprint outputs in 12 months** — *Scientific Reports* 15:14713 (3rd of 14) · *Clinical Infectious Diseases* ciae709 (7th) · openRxiv 2026 (1st & corresponding). **5,409 additional people** served through HIV viral-load pooling (+80% capacity); **38,326 additional people** tested through TB sputum pooling.
  - **Country Data Manager, Start4All Cameroon arm** (Unitaid-funded) + **Data Manager, TB Reach Wave 10 Cameroon** — both cited in the WHO, LSTM, and Stop TB evidence chain for the March 2026 policy update.
  - **Designed and deployed a QR-code patient and specimen tracking system** now running at **365+ health facilities and 25+ GeneXpert laboratories** across 7 regions of Cameroon — under active review by the National TB Programme for national adoption; 60%+ data-quality improvement; zero transcription errors.
  - **186,000+ lines of production Python · 28 Apache Airflow DAGs at 99%+ uptime · 8 Power BI semantic models (147 tables · 1,953 DAX measures) · 13+ REDCap projects on 4 servers.**
  - **Presenting author**, Union World Conference on Lung Health 2025 (Copenhagen, 19 Nov 2025), E-Poster EP10-793-19 — CXR-AI-guided pooled testing across 2,183 specimens, 45% cartridge reduction.
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## PROFESSIONAL EXPERIENCE

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Data Lead — Bamenda Center for Health Promotion and Research (BCHPR)

Bamenda, Cameroon · Feb 2023 – Present

- Lead data management, analytics, and reporting for **27+ active TB and HIV research projects** with Stop TB Partnership, Unitaid, LSTM, GHIT Fund, UCD, and Cameroon's National TB Programme.
- Country Data Manager for the Cameroon arm of **Start4All** and Data Manager for **TB Reach Wave 10 Cameroon** — evidence streams reflected in WHO's 9 March 2026 TB diagnostic recommendations.
- Architected the BCHPR production data platform: **186,000+ lines of Python** across project code and a reusable core library · **28 Apache Airflow DAGs** (99%+ uptime, 10-minute to 3-hourly cadences) · **8 Power BI semantic models** totalling 147 tables and 1,953 DAX measures (bilingual en-US + fr-US cultures on Wave 11).
- Coordinated the **GHIT FujiLAM II** multi-country diagnostic accuracy study — 12 sites across Cameroon + Nigeria, 4 REDCap projects, 28 instruments, **160+ automated data-quality queries** supporting WHO prequalification evidence.

- Led **TB Reach Wave 11** data systems across 8 regions — 5 integrated REDCap projects, bilingual French / English forms, dual QR-code schemes, spirometry PDF extractor, Outlook email auto-ingestion, three-stage Airflow orchestration.
- Built the **Request Management System** — Power Platform end-to-end (8 Power Automate flows · Teams Approval Cards · 16-table Power BI model with 61 DAX measures) running the full request lifecycle for the BCHPR Admin Team.
- Implemented zero-credential-exposure security — SQLite-backed audit trails, content-hash change detection, automated log cleanup across 70,000+ lines of code.
- **Automation ROI:** replaced manual 2–3x / day refreshes with 15-minute automated cycles · saved \$1,000+ / month in Power BI licensing through shared-workspace architecture · recovered ~3 hours / day per team member.

## Protection Data & Analytics Officer — International Committee of the Red Cross (ICRC)

### Regional Delegation for Central Africa, Yaoundé · Aug 2021 – Jul 2022

- Treated **information security as a protection issue, not an IT concern** — operated at the intersection of ICRC field teams, armed groups, the national military, and civilian authorities during Cameroon’s Anglophone Crisis.
- Maintained confidential beneficiary databases under ICRC’s rigorous data-protection standards using Prot6, advanced SQL, Power Query, and Power BI.
- Produced analytical products informing humanitarian access decisions and protection response strategies across the Central African regional delegation.

## Budget & M&E Consultant — Cameroon Baptist Convention (CBC) Health Services · HIV-Free Project (CDC / PEPFAR)

### Bamenda, Cameroon · Oct 2016 – Mar 2023

- Designed M&E and reporting systems **aligned with PEPFAR MER indicator requirements** across 20+ health facilities in Northwest Cameroon.
- Built Excel and Power BI tooling that cut manual reporting effort by 40% and improved donor reporting quality for quarterly CDC submissions.
- Trained **50+ programme and facility staff** on data collection, validation, and reporting workflows; coordinated reporting with CDC Cameroon and implementing partners across annual audits and donor reviews.

## PUBLICATIONS

1. **Mbuh NN** (first & corresponding), Adamou Mana Z, Konso J, et al. (2026). *Implementation of pooled testing of sputum specimens for rapid molecular detection of tuberculosis in Cameroon*. **openRxiv preprint**. DOI [10.64898/2026.03.20.26348676](https://doi.org/10.64898/2026.03.20.26348676). 71,328 specimens · 16 GeneXpert laboratories · 38,326 additional people tested · \$2.81 per pooled result vs \$7.97 individual · core evidence for WHO 9 March 2026 sputum-pooling recommendation.
2. Mbuli C, Fokou TJB, Nsamenang R, **Mbuh NN**, et al. (2025). *Diagnostic Performance of the Pluslife MiniDock MTB and Molbio MTB Ultima Assays ... in Cameroon*. **Clinical Infectious Diseases**. DOI [10.1093/cid/ciaf709](https://doi.org/10.1093/cid/ciaf709). Author position 7th. 1,097 participants · evidence for WHO recommendations on near-POC TB tests and tongue swabs.
3. Fosah Tayong GE, Vuchas C, **Mbuh NN**, et al. (2025). *Implementation of pooled testing to increase access to routine HIV viral load monitoring*. **Scientific Reports** 15:14713. DOI [10.1038/s41598-025-92709-y](https://doi.org/10.1038/s41598-025-92709-y). Author position 3rd of 14. 12,396 specimens · 5,409 additional people served (+80% capacity) · 0.01% misclassification.

**Conference (presenting author):** Union World Conference on Lung Health 2025, Copenhagen, 19 November 2025 · E-Poster EP10-793-19 — *Chest X-ray AI scores guide pooled testing to increase access to rapid molecular testing for TB in communities in Cameroon*. [Abstract](#).

**Policy impact:** [WHO 9 March 2026](#) · [LSTM 27 February 2026](#) · [Stop TB Partnership 27 February 2026](#).

## EDUCATION

- **Master of Science in Accounting** — University of Bamenda, Cameroon · 2020 · **GPA 3.51 / 4.0**
- **Bachelor of Science in Accounting (First-Class Honours · Best Graduate)** — University of Bamenda, Cameroon · 2018 · **GPA 3.61 / 4.0**

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## TECHNICAL SKILLS

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**Languages** · Python (Pandas, Polars, NumPy) · SQL (SQLite, PostgreSQL) · DAX · M (Power Query) · VBA · R

**Data engineering** · Apache Airflow (28 production DAGs · 99%+ uptime) · Polars (5–10× speedup) · ETL / ELT

**Business intelligence** · Power BI (8 models · 147 tables · 1,953 DAX measures) · Semantic modelling · Row-level security · Bilingual cultures (en-US + fr-US)

**Clinical research data** · REDCap (13+ projects · 4 servers · custom API wrapper) · 160+ automated data-quality queries · Diagnostic accuracy studies

**APIs & integrations** · REDCap API · Manager.io API · Microsoft Graph API (OAuth 2.0) · Abbott m2000 · pydicom

**Platform** · Microsoft 365 · SharePoint · Power Automate · Power Platform end-to-end · Git · Windows / WSL / Linux

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## CERTIFICATIONS — 25 TOTAL · 19 VERIFIABLE ONLINE

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**Data Science** — [Data Scientist Professional](#) · [Data Scientist Associate](#) · [Data Analyst Professional](#) · [Data Analyst Associate](#) — DataCamp (2022–2024).

**Finance & BI** — [FMVA®](#) · [BIDA®](#) · [CBCA®](#) — Corporate Finance Institute (2021–2022) · QuickBooks Online Certified User — Global Version · QuickBooks Desktop Certified User — Intuit, 2023 (verify at [verify.certipoint.com](https://verify.certipoint.com); IDs wCsuT-489e and 8nDG-uSes respectively).

**Microsoft** (verify at [verify.certipoint.com](https://verify.certipoint.com)) — Excel Expert (Microsoft 365 Apps), 2023 (wUT3Q-2FEU) · Microsoft Office Specialist Master, 2018 (vGMe-Dwxa) · MCSA: BI Reporting, 2020.

**AI** — [Certified ChatGPT Expert](#) (Blockchain Council) · Anthropic Academy (2026): [AI Fluency for Educators](#) · [AI Fluency for Nonprofits](#) · [Claude 101](#) · [Claude Code 101](#) · [Introduction to Claude Cowork](#) · [Claude Code in Action](#) · [Teaching the AI Fluency Framework](#).

**Language** — IELTS Academic Band 7.5 (CEFR C1) — British Council, Jan 2023.

**Continuing education (global health)** — *Leadership and Management in Global Health* (UW, Dec 2024) · *Data Management in Clinical Research* (Vanderbilt, Aug 2024) · *Monitoring and Evaluation in Global Health* (UW, 2024) · *Project Management in Global Health* (UW, 2023).

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## LANGUAGES

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**English** — Fluent · IELTS 7.5 (CEFR C1) · **French** — B2 Upper Intermediate (professional working proficiency) · **Pidgin English** — Fluent.

*References available on request.*