

VALENTINE GOLDEN GHANEM

Principal Medical Scientist | Lab Quality and Compliance Expert

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SUMMARY

CORU-registered Medical Scientist with 10+ years' experience in diagnostic medicine, quality management, and clinical data science. Skilled in optimizing lab protocols, managing LIMS-based quality systems, and applying epidemiological insights for public health impact. Proven record in improving testing efficiency, reducing turnaround times, and supporting ISO 15189 audits through cross-disciplinary supervision and machine learning applications. Combines leadership in high-throughput diagnostics with population-level data expertise to strengthen health systems and support patient-centered care.

EXPERIENCE

Principal Biomedical Scientist

Cocoa Clinic 07/2015 - Present Accra, Ghana

- Operational Leadership: Supervise 20+ staff across Hematology, Chemistry, and Microbiology, ensuring 24/7 diagnostics and compliance for 1,000+ daily tests.
- Multidisciplinary Testing: Operated Sysmex XN-550, Mindray BS600, and VITEK 2/BACTEC FX systems for over 950 daily tests across hematology, chemistry, and microbiology.
- Quality & Accreditation: Integrated LabWare LIMS and streamlined SOPs, reducing TAT by 20%; passed 5 audits (SLIPTA, RIQAS).
- Instrumentation Oversight: Led daily calibration for XN-550, BS600, and VITEK 2; maintained over 90% result accuracy across 30,000+ monthly tests; resolved system errors during ISO 15189 inspections.
- Data Innovation: Built Machine learning models (XGBoost, Ridge, Random forest etc.) for HIV forecasting; validated and uploaded clinical data into DHIMS2 to support national surveillance.
- Staff Development: Trained 30+ junior scientists in QC and biosafety, reducing lab incidents by 45%.
- Community Outreach: Led mobile testing in rural areas, enabling early disease detection for 4,000+ underserved patients.

Volunteer Biomedical Scientist

Life Medical Mission 06/2014 - 07/2015 Accra, Ghana

- Processed 700+ daily tests across hematology, microbiology, and immunology using Mindray BS500 and Sysmex XN-Series and SD Biosensor analysers.
- Standardized SOPs and biosafety protocols, increasing lab efficiency by 25%.
- Coordinated mobile diagnostics for 5,000+ rural patients; helped reduce advanced malaria/HIV/NCD cases by 18%.
- Coordinated mobile diagnostics for 5,000+ rural patients; helped reduce advanced malaria, HIV and NCD cases by 20%.

Biomedical Scientist (Intern)

Korle-Bu Teaching Hospital 07/2013 - 08/2014 Accra, Ghana

- Rotated through hematology, chemical pathology, and microbiology; ran 1,500+ daily tests using systems like BD BACTEC FX, Siemens RXL, Sysmex, Mindray, Roche Cobas e411 etc.
- Supported ISO-aligned documentation (SLIPTA, SLMTA), helping reduce diagnostic errors by 10%.
- Logged daily calibration and temperature checks, maintaining safety with less than 3 reportable incidents during my tenure.

LICENSES

MS 063958

CORU Medical Scientist, Ireland

09007815

AHPC Medical Laboratory Scientist, Ghana

PROFESSIONAL MEMBERSHIPS

ACSLM, Ireland

GABMLS, Ghana

LANGUAGES

English Proficient ●●●●●

CORE COMPETENCIES

Diagnostic Experience

Clinical Biochemistry Hematology

Microbiology Immunohaematology

Technical Systems

LIMS (LabWare, Meditech, PathNet)

QMS (ISO 15189, SLIPTA, SLMTA)

IQC (Sysmex Caresphere, Q-Pulse)

EQA (RIQAS) Analyser Calibration

Analyser Routine Maintenance

Operational Leadership

SOP Planning Troubleshooting

Multidisciplinary Team Supervision

Quality Compliance Audit Management

Clinical Ward Round Collaboration

Outbreak Preparedness

Conflict Resolution

EXPERIENCE

Research Contribution I

Spatial Determinants of HIV in Ghana (Ecological Study)

- 📅 05/2024 - 01/2025 📍 Accra, Ghana
- Mapped HIV hotspots and found a 16% reduction in incidence per 10% rise in education using SHAP and XGBoost model.
 - Status: Published
 - <https://doi.org/10.4236/aid.2025.154050>

Research Contribution II

Forecasting HIV Incidence in Ghana (Ecological Modeling Study)

- 📅 05/2024 - 01/2025 📍 Accra, Ghana
- Built ensemble ML models (XGBoost, Ridge Regression) achieving >0.98 correlation with observed trends; projected stabilization at 231/100k by 2030.
 - Status: Preprint
 - <https://doi.org/10.21203/rs.3.rs-6639193/v1>

Research Contribution III

HIV Prognosis in Sub-Saharan Africa (Narrative Review)

- 📅 01/2025 - 05/2025 📍 Accra, Ghana
- Synthesized 218 studies to highlight structural mortality drivers; found only 43% offered actionable policy recommendations.
 - Status: Published
 - <https://doi.org/10.61424/ijmhr.v3i2.346>

Research Contribution IV

Health Inequities Mapping in Ghana (District-Level Study)

- 📅 01/2025 - 06/2025 📍 Accra, Ghana
- Identified {5} major socio-economic clusters by leveraging k-means and decision trees in Northern and Coastal districts.
 - Status: Manuscript Submitted.

EDUCATION

B.Sc. in Medical Laboratory Science

[University of Ghana](#) 📅 09/2010 - 11/2013 📍 Accra, Ghana

M.Sc. in Public Health

[University of Suffolk](#) 📅 12/2023 - 2025 📍 Ipswich, United Kingdom

M.Sc. in Data Science

[University of East London](#)
📅 01/2024 - 08/2025 📍 London, United Kingdom

CORE COMPETENCIES

Instrumentation

Mindray BS600	Roche Cobas e411
Beckman Access 2	BioRad D-10
Sysmex XN-550	Stago STA Compact
Haemonetics MCS+	VITEK 2
BD BACTEC FX	

Data Science & Epidemiology

ML (XGBoost, SVR, Ridge Regression)			
Data Wrangling		Statistical Inference	
Python	R	Tableau	QGIS
Disease Trend Forecasting			
Outbreak Simulation		Spatial Analysis	
LIMS Automation		Disease Modelling	
Diagnostic Data Validation			
Audit Trail Management			

Public Health

Disease Surveillance	
Disease Screening	Field Diagnostics
Point-of-Care Testing	
Mobile Clinic Deployment	DHIMS2
Biosafety Protocols	
Intervention Planning	
Population Screening Design	
Epidemiology Surveys	