

Olugbenga Asaolu, PhD

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PROFILE

Data-driven Senior Data Scientist and Epidemiologist with over 13 years of experience in biostatistics, real-world data (RWD) analytics, and machine learning applications in global health and patient data science. Proven expertise in computational platforms, causal inference, predictive modeling, and AI-driven analytics to optimize public health interventions and epidemiological research.

Author of 30+ peer-reviewed publications, international speaker, and innovator in AI-driven surveillance models and longitudinal patient cohort studies. Adept at leveraging electronic health records (EHR), claims databases, and large-scale health informatics systems to drive actionable insights.

WORK EXPERIENCE

Centers for Disease Control and Prevention (US-CDC)

20th October 2024 till date

Health Scientist (Informatics and Data Science)

Full time/Hours per week: 40

Duties & Achievements

- Lead advanced data science and informatics initiatives supporting national and global responses to high-consequence infectious diseases within the Division of High-Consequence Pathogens and Pathology (DHCPP).
- Collaborate with multidisciplinary teams across all 50 U.S. states and international stakeholders to develop data-driven strategies that enhance disease surveillance, preparedness, and response.
- Design and implement advanced statistical models, machine learning algorithms, and predictive analytics to extract actionable insights from complex, high-volume health datasets.
- Translate analytical findings into strategic recommendations that inform public health policies, strengthen health systems, and guide critical decision-making processes.
- Develop interactive data visualizations and dashboards that effectively communicate trends, risks, and outcomes to scientific, operational, and policy audiences.

United States Agency for International Development (USAID)

8th October 2023 to 19th October 2024

Project Management Specialist

Full time/Hours per week: 40

Duties & Achievements

- Developed real-world data (RWD) frameworks integrating electronic health records (EHR) and administrative claims databases to track longitudinal patient outcomes.
- Applied causal inference methods to evaluate HIV treatment effectiveness and identify high-risk patient cohorts for targeted interventions.
- Led the implementation of predictive modeling techniques to optimize ART (antiretroviral therapy) retention strategies and patient adherence monitoring.
- Designed AI-driven epidemiological models to assess public health interventions, reducing bias in observational studies.
- Spearheaded data visualization initiatives, transforming patient outcome data into actionable insights for stakeholders, policymakers, and program leads.

Duties & Achievements

- Led national case-based HIV surveillance using big data analytics and Bayesian models to detect mortality trends.
- Developed and deployed machine learning classifiers to predict HIV/AIDS patient adherence based on health records, demographic factors, and prior treatment history.
- Utilized longitudinal statistical models and real-world data evidence synthesis to inform HIV program policies.
- Conducted propensity score matching and bias adjustment techniques to improve data reliability in observational epidemiological studies.
- Contributed to cloud-based computational platforms to support high-performance epidemiological modeling.

Association for Reproductive and Family Health, Nigeria20th October 2014 to 31st December 2019

National Monitoring and Evaluation Lead

Full time /Hours per week: 40

Duties & Achievements

- Designed advanced data engineering pipelines to collect, clean, and analyze longitudinal patient data for HIV intervention projects.
- Applied statistical modeling techniques to improve real-time disease outbreak detection and response strategies.
- Led the implementation of geospatial analytics to map high-burden HIV populations, guiding targeted public health interventions.

Society for Family Health, Nigeria21st September 2012 to 22nd Sept. 2014

Monitoring, Research and Evaluation Lead (Lagos Territory)

Full time/Hours per week: 40

Duties & Achievements

- Conducted randomized control trials (RCTs) and observational studies to evaluate health interventions and treatment efficacy.
- Developed automated data ingestion systems for large-scale public health datasets, enhancing statistical inference accuracy.

TECHNICAL SKILLS

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- **Programming & Data Analysis:** Python, R, SQL, STATA, SPSS, DHIS2, QGIS
 - **Machine Learning & AI:** Predictive Modeling, Bayesian Inference, Neural Networks, NLP, Deep Learning
 - **Big Data Analytics:** Cloud Computing, AWS, Data Engineering, Data Pipelines
 - **Epidemiological Methods:** Biostatistics, Causal Inference, Longitudinal Analysis, Propensity Score Matching
 - **Health Informatics & RWD:** Electronic Health Records (EHR), Claims Data, Patient Registries
 - **Data Visualization:** Tableau, Power BI, ggplot2

EDUCATION

Babcock University, Nigeria

June 2022

Doctor of Philosophy in Public Health

CERTIFICATION AND CONTINUING EDUCATION

- Big Data Analysis with R, SQL and Python -Data-Lead Africa (2021)
- Machine Learning & AI in Healthcare – CDC University (2023)
- Exploratory and Descriptive Data Analysis with R – Accelebrate, Atlanta (2024)

SELECTED [PUBLICATIONS](#) AND CONFERENCES

Asaolu O., Alagi M, Dalhatu I, Ugbeno R, Bello M, Orji J, (2023). Deploying eHealth to Facilitate Community Verbal Autopsy for HIV Mortality Surveillance: Lessons from Nigeria. Proceedings of the 12th IAS

Ahmed I, **Asaolu O.**, Alagi M, Dalhatu I, Case-Based Surveillance Group(2021). Leveraging Electronic Health Records and the National Data Repository for Implementation of Case-based Surveillance: Lessons from Nigeria. Proceedings of the 21st International Conference on AIDS and STIs in Africa (ICASA); 2021 December 6-11; Virtual. Abstract Number PEC005.

Asaolu, O. S., & Agbede, C. (2022). Factors Influencing Medication Adherence Among Young People Living with HIV In Niger State, Nigeria. Open Journal of Medical Research (ISSN: 2734-2093) , 3(1), 12-19. <https://doi.org/10.52417/ojmr.v3i1.321>

Jahun I, Said I, El-Imam I, Ehoche A, Dalhatu I, Yakubu A, Greby S, ... **Asaolu O.** ... (2021) Optimizing community linkage to care and antiretroviral therapy Initiation: Lessons from the Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS) and their adaptation in ... *Plos one* 16 (9), e0257476

Asaolu O., & Agbede C. (2022). An Assessment of Medication Adherence and risk Perception among young people living with HIV in Niger State, Nigeria. *Int. J. of Adv. Res.* 10 (Mar). 325-328] (ISSN 2320-5407). doi: <http://dx.doi.org/10.21474/IJAR01/14394>

Asaolu O., Iyanda OA, Oyeniyi A, Adeyemo A, Ayinde AO, Obembe O. (2022). Partner Selection Contribution to Risky Sexual Behaviour among Youths Currently Attending NYSC Orientation Camp, Ede, Osun State. *Central Asian Journal of Medical and Natural Sciences*, 03 (03), 528-550