

# Olugbenga Asaolu, PhD

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## PROFILE

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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

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Centers for Disease Control and Prevention (US-CDC)

20<sup>th</sup> 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)

8<sup>th</sup> October 2023 to 19<sup>th</sup> 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, Nigeria**20<sup>th</sup> October 2014 to 31<sup>st</sup> 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, Nigeria**21<sup>st</sup> September 2012 to 22<sup>nd</sup> 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**

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**Babcock University, Nigeria**

June 2022

Doctor of Philosophy in Public Health

## CERTIFICATION AND CONTINUING EDUCATION

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- 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

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**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