

David Mwale

Data Science

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Family Planning Association of Malawi
FPAM House | Area 10/447 | P/Bag B424
Lilongwe

Email: d.mwale@sms.ed.ac.uk

Cell: +265 993 627 367/881 290 124

Capability Statement

Highly analytical and detail oriented Health and Social Care Data Scientist with a robust foundation in statistical analysis, machine learning, and data visualisation. Proven ability to leverage big data tools such as Hadoop, Apache Spark with Spaklyr to perform predictive modelling. Passionate about transforming raw data into actionable insights through data story-telling. Committed to leveraging my data science skills and experience to provide innovative solutions and contribute to the success of your organisation.

Skills & Knowledge

- **Programming Languages:**
 - Proficient in programming languages such as Python, R, and SQL for data manipulation and analysis.
- **Data Visualization:**
 - Expertise in using data visualization tools (e.g., ggplot2, PowerBI, Matplotlib, Seaborn) to present data insights in a clear and compelling manner.
- Knowledge, experience in using version control platforms like **GitHub**.
- **Communication & Presentation:**
 - Ability to translate complex data insights into understandable narratives for non-technical stakeholders.
 - Data Storytelling
- **Adaptability:**
 - Flexibility in adapting to new data technologies, methodologies, and evolving project requirements.
- **Data Analysis & Interpretation:**
 - Proficient in analyzing and interpreting complex data sets to drive strategic business decisions.
- **Teamwork & Collaboration:**
 - Proven experience in working collaboratively with cross-functional teams to achieve project goals.
- **Predictive Modeling & Machine Learning:**
 - Skilled in developing predictive models and implementing both supervised and unsupervised machine learning algorithms to forecast outcomes.

Experience

I. Family Planning Association of Malawi (FPAM)

Position: **Data Use Specialist** (JAN 2021 - UP TO DATE)

☐ **Data organization**

- Developing and maintaining standard operating procedures (SOPs) for various activities of data management.
- Working with Coordinators, Managers, and Technical Advisors, to troubleshoot technical challenges experienced during the data collection process.
- Provide technical support to routine data collection using the specific databases: dhis2, ODK as well as some Ministry of Health (MoH) tools towards M&E integration.
- Participate in external coordination meetings with relevant departments of the Ministry of Health and Population, the National AIDS Commission, Department of HIV and AIDS and other stakeholders.

☐ **Data collection and management:**

- Oversee the collection of high-quality data, ensuring it is accurate, reliable, and timely.
- Design and implement data collection methods, including surveys, interviews, and focus group discussions.
- Establish data management systems to organize and store project-related data securely.
- Conduct regular data quality assessments and implement measures to address any data inconsistencies or issues.

☐ **Data analysis and reporting:**

- Analyze project data using appropriate statistical tools such as R, Python, PowerBI, Excel.
- Prepare regular reports on project progress, outcomes, and impacts, and share them with relevant stakeholders.
- Develop data visualization tools, such as charts, graphs, and dashboards, to facilitate data interpretation and dissemination.
- Using project monitoring data for Machine Learning.

☐ **Capacity building and training:**

- Provided training and support to project staff and partners on data management, data collection techniques, and tools.
 - Train staff in, CMIS (Clinical Management Information System) KoboCollect, dhis2, and LogAlto

II. Adventist Development and Relief Agency (ADRA)

Position: **Data Management Officer** (OCTOBER 2016 - JAN 2021)

- Develop and implement data collection tools and methodologies in alignment with project objectives and indicators.
- Train project staff and partners on data collection protocols, ensuring adherence to standard operating procedures.
- Oversee data entry, cleaning, and verification processes to maintain data integrity.
- Conduct regular data quality assessments and provide feedback to field teams for continuous improvement.
- Analyze project data to identify trends, patterns, and insights relevant to nutrition-sensitive interventions.
- Prepare and present data reports, dashboards, and visualizations for project stakeholders, including donors and government partners.
- Collaborate with Monitoring and Evaluation (M&E) team members to integrate data management activities into broader project monitoring frameworks.
- Ensure compliance with data privacy and protection regulations, including obtaining necessary consent for data collection and storage.
- Support the development and implementation of digital data collection systems where applicable.

III. Find Your Feet (FYF) / Data entry officer

AUGUST 2016 - SEPTEMBER 2016

- Update existing data
- Transfer data from paper formats into computer files or database systems
- Data entry, Data cleaning, and analysis
- Create spreadsheets with large numbers of figures without mistakes
- Data Cleaning

IV. Ministry of Finance, Economic Planning and Development / Monitoring and Evaluation internee

AUGUST 2014 - OCTOBER 2014, LILONGWE

- Carried out periodic and comprehensive Reviews e.g. Malawi Growth Development Strategy.
- Conducted National Budget Analysis that focused on the allocation and utilization of funds in the 2014/2015 Malawi Budget
- Participated in the successful review of Millennium Development Goals (MDGs) 2014 annual report.

Education

University of Edinburgh / MSc in Data Science for health and social care (Pending)

- Introduction to Data Science in health and social care
- Foundations of software development in health and social care
- Applied Software Development in Health and Social Care
- Data Analysis with R
- Digital technologies in health and social care
- Introduction to statistics in health and social care
- Statistical Modelling for epidemiology
- Introduction to statistics in health and social care
- Foundations in research design in data science for health and social care
- Big Data Analytics
- Introduction to database and information systems
- Intermediate R programming

University of Malawi (Bunda College) / BSc in Agricultural Economics

NOVEMBER 2011 - OCTOBER 2015, LILONGWE

- Econometrics
- Research project
- Statistics for Economists
- Mathematics for Economists

Research studies

- Effects of inflation and investment on economic growth using time series data
- Hedonic pricing: Effects of housing attributes on price of the property
- Baseline and Endline surveys for ADRA and CARE International.
- Factors associated with Self_Injectable uptake in Malawi

Catholic University / Diploma in Monitoring and Evaluation

JANUARY 2018 - JANUARY 2020

- M&E I&II
- Quantitative skills
- Statistics
- M&E Report writing

Trainings

- Training in M&E, Log Frames, and Data Analysis and Action planning by **disasterready.org** in 2019
- Monitoring and Evaluation Training by **ADRA International** in Bangkok, Thailand 2018.
- Training in **KoboCollect (ODK based)** application for data collection and entry by CARE Malawi 2017
- Training in introduction to **NVivo** by digital learning (University of Edinburgh).
- Training in **Python vs R** by Digital Skill team at University of

Edinburgh.

- Data visualization in **R with ggplot2** by University of Edinburgh, LinkedIn Learning.
- Data visualization training with **PowerBI** by Microsoft Press in 2024.
- Data Wrangling in R
- ETL in SQL and Python

References

Dr Brittany Blankinship | Lecturer in Data Science

Usher Institute, University of Edinburgh

Old Medical School, Teviot Place, Edinburgh, EH8 9AG

Email: b.blankinship@ed.ac.uk

Tazirwa Chipeta | Director of Programs

Family Planning Association of Malawi

FPAM House | Area 10/447 | P/Bag B424 Lilongwe |Mw

Cell:+265 991 93 38 44, +265 888 11 89 84

Email: tchipeta@fpamalawi.org

Nancy Mberesia | Data Analyst

International Planned Parenthood Federation (IPPF) | Africa
Regional Office

Merchant Square, Block C 5th Floor | Riverside Drive PO Box
30234 | Nairobi | Kenya

email Nmbereisa@ippf.org tel +254 710 387 216