Maaya Leonard Wafula

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PROFESSIONAL SUMMARY

A statistician interested in contributing to solutions to health-related problems across the world. History of continuous knowledge seeking to advance the theoretical knowledge and practical application of statistics in medical research and pharmaceutical sectors.

MOTIVATION FOR APPLYING FOR STATISTICIAN for HTA

My skills as a Biostatistician (MSc.) and as a discrete choice modeler (PhD) is geared towards working as a statistician in health technology assessment (HTA) which requires combining both – among other - fields. Joining the Veramed team not only gives me a rare opportunity to work with world leading researchers and statisticians that I admire. It also gives me an opportunity to work with a company which shares my long term objective of playing a part in providing solutions to the many health problems prevalent globally.

WORK EXPERIENCE

Statistician   July 2023 - November 2023

ORSTAT, KU Leuven, Belgium

- Provided statistical support to quantitative and non-quantitative clients
- Supported teaching of courses online by setting up material, coordinating and monitoring their availability
- Conducted research in support of requests from ORSTAT clients
- Participated in seminars, workshops and doctoral defenses for discrete choice models
- Part of the organizing team for the workshop on discrete choice models
- Coded R programs for individualized data processing, statistical analyses and generation of feedbacks for students taking online courses

Statistician   June 2021 - May 2023

Janssen Pharmaceutica, Beerse, Belgium

- Performed simulation studies and sample size calculation
- Performed statistical analyses for process, method & equipment development
- Performed Bayesian analyses for process performance qualification
- Supported the compounding & dilution techniques for vaccines
- Provided statistical and programming expertise in equivalence studies
- Reviewed statistical methods
  - Design of experiments (Extended Youden Design)
  - Bayesian & double-bootstrap approaches for tolerance intervals
  - Probability-based equivalence tests
  - Bayesian & bootstrap approaches for the F2 statistic for analyzing dissolution profile similarity
- Conducted analyses to determine the shelf-life and stability of vaccines
- Performed Bayesian-based analyses for estimation and PoS determination
- Worked with and coordinated the work of CROs
- Wrote (and peer-reviewed) statistical reports (from colleagues)

Statistician   January 2013 - October 2015
Kenya Medical Research Institute - Wellcome Trust Program, Kilifi, Kenya
- Conducted statistical analyses for epidemiological studies in the department
- Contributed to scientific publications through statistical analyses
- Performed clinical, lab & epidemiological data management for five studies
- Coded R and STATA programs for data management, analyses and monitoring of epidemiological studies

EDUCATION

PhD in Business Economics: Operations Research and Statistics   May 2021
Katholieke Universiteit Leuven, Belgium
Topic: Modeling the Impact of Labels, the Dynamics in Attribute Non-Attendance and the Dropout in Discrete Choice Experiments

Master of Science in Statistics   August 2017
Universiteit Hasselt, Belgium
Distinction

Bachelor of Science in Statistics   August 2012
University of Nairobi, Kenya
First Class Honors

SEMINARS, WORKSHOPS AND CONFERENCE PRESENTATIONS

Scientific Research Network on Choice modelling, *KU Leuven*   September 2023

Non Clinical Statistics Conference, *Louvain-la-Neuve, Belgium*   October 2022
Simulating the drug substance to drug product conversion process in vaccine manufacturing

Second Doctoral Seminar   September 2020
Joint Analysis of Preferences and Dropout Data in Online Choice Experiments

XIV. International Research Conference, *Vancouver, Canada*   August 2020
E-Consumers' Attribute Non-Attendance Switching Behavior: Effect of Providing Information on Attributes

First Doctoral Seminar   October 2019
Consumers' Attribute non-attendance switching behavior in Discrete Choice Experiments

Royal Statistical Society of Belgium   October 2019
E-consumers' dynamic attribute non-attendance behavior: The effect of providing extra information on attributes

WOG Workshop on Choice Modeling, *Brussels*   June 2019
E-consumers' dynamic attribute non-attendance behavior: The effect of providing extra information on attributes

12th Belgian Environmental Economics Day 2019, *University of Antwerp*   February 2019
Effect of environmental and altruistic attitudes on willingness-to-pay for organic and fair trade coffee in Flanders

SHORT COURSES

Pharmalex June 2021
Assay validation in JMP

KU Leuven June 2018
Optimal and Orthogonal Design of Experiments

University of Leeds June 2018
Choice Modelling and Stated Preference Design summer course

University of Leeds November 2017
Choice Modelling and Stated Preference Design winter course

KEMRI-Wellcome Trust Research Program November 2013
Good Clinical Practises - GCP2013

COMPUTER SKILLS

- **Statistics**
  - R, Python, SAS, JMP, STATA
  - WINBUGS/JAGS/STAN
  - HPC
- **Data Management**
  - SQL
  - FileMaker 11
- **Text processing & automation**
  - MS Word, MS PowerPoint
  - LATEX, R Sweave
  - R Markdown & R Shiny
- **Version control**
  - GIT

SKILLS FOR THE STATISTICIAN for HTA POSITION

- Experience as a statistician in a pharmaceutical setting
- Experience with Bayesian statistical methods
- Practical understanding of statistical modelling (including time-to-event models & meta-analysis) and application to real world problems
- Theoretical understanding and experience in discrete choice experiments which can be used in health economics and health technology assessment (HTA)
- Proficiency in statistical software (R, OpenBUGS, JAGS, STAN, Git)
- Generating web-based reports using the R-Shiny application
- Experience in Design of Experiments for process, method & equipment development
- Liaising with programmers and other statisticians on clinical & non-clinical studies
- Experience in effective visualization of data to non-statisticians
- Understanding of Quality by Design thinking and Design Space methodology
- Experience working in ICH (for vaccines) & ASTM (for small molecules) framework
- Experience of working in multidisciplinary team settings
- Experience in designing and managing studies
- Experience on Good Clinical Practices from a top medical research organization
- Experience working with and coordinating the work of CROs
- Excellent communication skills to quantitative & non-quantitative colleagues
- Strong academic performance and scientific publishing
- Knowledge of variance component & multivariate analyses for machine learning
- Willingness and ability to learn and apply newer statistical methodology

LANGUAGES

- English: Fluent
- French: Beginner
- Dutch: Beginner
- Swahili: Mother tongue

RESEARCH INTERESTS

- Biostatistics
- Health Technology Assessment
- Bayesian statistics
- Discrete choice modelling in Health economics

PUBLICATIONS IN INTERNATIONAL JOURNALS

1. Maaya, Leonard, Meulders, Michel, and Vandebroek, Martina. Joint analysis of preferences and drop out data in discrete choice experiments. Journal of Choice Modelling 41.C (2021): 100308.
2. Maaya, Leonard, Meulders, Michel, and Vandebroek, Martina. Online Consumers' Attribute Non-Attendance Behavior: Effects of Information Provision. International Journal of Electronic Commerce 24.3 (2020): 338-65.
3. Kagia, Ngure, Kosgei, Patrick, Ooko, Michael, Wafula, Leonard, Mturi, Neema, Anampiu, Kirimi, Mwarumba, Salim, Njuguna, Patricia, Seale, Anna C, Berkley, James A, Bottomley, Christian, Scott, J Anthony G, and Morpeth, Susan C. Carriage and Acquisition of Extended-spectrum β-Lactamase-producing Enterobacterales Among Neonates Admitted to Hospital in Kilifi, Kenya. Clinical Infectious Diseases 69.5 (2019): 751-59.
4. Maaya, Leonard, Meulders, Michel, Surmont, Nick, and Vandebroek, Martina. Effect of Environmental and Altruistic Attitudes on Willingness-to-Pay for Organic and Fair Trade Coffee in Flanders. Sustainability (Basel, Switzerland) 10.12 (2018): 4496.

SCHOLARSHIPS

VLIR-UOS for the MSc. in Statistics studies (2015-2017)

PROFESSIONAL MEMBERSHIP

- Royal Statistical Society (RSS)
- Belgian Royal Statistics Society
- Epidemiology and Biostatistics Society of Kenya

REFEREES

Dr. Hans Coppenolle
Director Manufacturing Statistics
Janssen Pharmaceutical Companies
Beerse (Belgium)

Prof. Dr. Martina Vandebroek
Senior lecturer and PhD supervisor
Katholieke Universiteit
Leuven (Belgium)