

Dr Ebenezer Owusu Adjah

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SUMMARY

- Dr Owusu Adjah obtained his PhD (Biostatistics) from The University of Queensland. He also holds an MSc degree in Epidemiology and Biostatistics.
 - He has over 6 years of experience as a lead biostatistician in both the academic and clinical research industry, providing statistical expertise at all levels of drug development (Phase I to III), and in the conduct of epidemiological studies using real-world data from electronic medical records or linked health data.
 - Expertise in developing novel statistical methodological approaches for dealing with the challenges of using real-world data for epidemiological studies.
- Experience and skills (years) in
 - Biostatistics: 8
 - Statistical Analyses plans (SAP): 6
 - SAS programming: 8
 - Tables, figures, and listing (TFL) shells: 4
 - Real-World Evidence: 4
 - SQL for querying relational databases: 4
 - Electronic Database Design (OpenClinica, REDCap) and review: 6
 - Therapeutic Areas
 - Healthy volunteers (single & multiple ascending dose, safety, pharmacokinetic (PK) and pharmacodynamic (PD) studies in numerous indications)
 - Infectious diseases (malaria, hepatitis B)
 - Central nervous system (Alzheimer's disease, multiple sclerosis)
 - Rheumatology (rheumatoid arthritis)
 - Gastroenterology (ulcerative colitis, irritable bowel disease),
 - Scope of Activity
 - Sample size, power, input in the protocol, developing statistical analysis plans and mock shells for TFLs, developing randomization plan and specifications, annotated electronic case report form (eCRF) reviews, statistical analysis and quality control check of final TLF outputs

ACADEMIC QUALIFICATIONS

2019	PhD Clinical Biostatistics	The University of Queensland
2013	M.Sc. Epidemiology and Biostatistics	Cyprus University of Technology
2010	B.Sc. Biochemistry	University of Ghana

EMPLOYMENT HISTORY

Position	Date	Company
Snr Biostatistician (full-time)	May 2021 – Aug 2021	Microba Life Sciences
Biostatistician (full-time)	May 2018 – May 2021	Novotech Health Holdings
Honorary Fellow (part-time)	Jul 2019 – Jun 2021	Melbourne Epicentre, University of Melbourne
Research Assistant (part-time)	Oct 2017 - May 2018	Cancer Aetiology & Prevention Group, QIMR Berghofer Medical Research Institute
Statistician (part-time)	Mar 2017 - Jul-2017	Melbourne Epicentre, University of Melbourne
PhD Candidate (full-time)	Apr 2015 – Jan 2019	The University of Queensland / QIMR Berghofer Medical Research Institute
Scientific Officer (part-time)	Apr 2015 - Dec-2016	Clinical Trials and Biostatistics Unit, QIMR Berghofer Medical Research Institute

RELEVANT EXPERIENCE

June 2020 to May 2021 **Biostatistician**, Novotech Pty Ltd, Australia

I was responsible for the methodological and statistical aspect of clinical studies. This includes:

- Review of statistical sections of study synopses, protocols and reports.
- Sample size estimations and justification.
- Review of annotated eCRFs.
- Preparing randomization specifications and schedules, SAPs and mock TFL shells.
- Performed statistical analyses and quality control checks on TFL outputs from SAS.

I developing a SQL based program in SAS to summarize adverse events. A procedure that significantly reduces computation time compared to SAS data step procedure.

May-2018 – June 2020 **Biostatistician**, Clinical Network Service, Australia

Contributed statistical expertise at all levels of drug/device development following applicable regulatory guidelines by:

- Designing or reviewing study designs, number of subjects, key efficacy and safety variables and definitions of endpoints, randomization and blinding procedures for phase 1/2 dose escalation, cross-over, food effect, PK, PD clinical trials.
- Reviewing electronic data capture designs and report forms.
- Developing randomisation plan and specification documents for clinical trial studies with various designs (e.g. single multiple ascending dose, cross-over, Simon 2 stage, etc), and producing

randomisation list.

- d) Programming in SAS to provide unblinded safety, PK, or PD data to data safety monitoring boards.
- e) Developing SAPs for diverse therapeutic areas and disease indications including trials of malaria, hepatitis B, and multi-drug resistant tuberculosis.
- f) Performed biostatistical analyses using validated software applications and according to SOPs.

Apr 2015 – Jan 2019

PhD candidate in Biostatistics, Faculty of Medicine, The University of Queensland / QIMR Berghofer Medical Research Institute, Australia

Conducted research and presented seminars on various aspects of my thesis project entitled “Evaluation of obesity paradox in diabetes: a longitudinal case-control study”, which aimed to investigate the association between longitudinal changes in body weight and long-term cardiovascular / mortality risk in patients with T2DM using large longitudinal primary care data;

- a) Using a large database of EMRs on ~13 million patients from the UK primary care system, I created a cohort of T2DM patients (n=402,719) by applying statistical methods and supervised machine learning algorithms;
- b) Programmed in SAS to obtain longitudinal clinical and anthropometric data on the cohort of T2DM patients; this dataset was used to address the aims of my thesis as well as for other clinical research projects;
- c) Conducted multiple imputations of missing longitudinal clinical and laboratory data;
- d) Developed and fitted multivariate/multiple regression (linear, logistic, Poisson, survival) and treatment effect models;
- e) Output includes the publication of six (6) scientific papers and five (5) oral presentation of research results at international and local conferences;

Oct 2017- May 2018

Research Assistant (Biostatistics), Cancer Aetiology and Prevention group, QIMR Berghofer Medical Research Institute, Australia

- a) Conducted research into the relationship between vitamin D levels and incidence of cardiovascular diseases ;
- b) Produced listing of ICD-10 codes for selected cardiovascular diseases and their related medical procedures;
- c) Programming in SAS to extract selected cardiovascular diseases from hospital databases (Linked heath data);
- d) Developed and implemented an algorithm for distinguishing between primary and secondary diagnosis of the selected cardiovascular diseases
- e) Transformed and aggregated data on cardiovascular events to obtain the analysis-ready dataset.

March 2017-July 2017

Statistician, Melbourne EpiCentre, University of Melbourne, Australia

- a) Provided research-related data on pharmaco-epidemiologic studies including studies on rheumatoid arthritis and cardiovascular safety of new antidiabetic drugs;
- b) Provided statistical analyses and reports;
- c) Prepared methodological and applied statistical research manuscripts;
- d) Provided high level statistical consulting and training to clinical and basic science researchers;

JOURNAL PUBLICATIONS

Journal Publication

1. **Owusu Adjah, E.S.**, Kausik K. Ray, and Sanjoy K. Paul. Ethnicity-specific association of BMI levels at diagnosis of type 2 diabetes with cardiovascular disease and all-cause mortality risk. *Acta diabetologica* (2018): 1-10.
2. **Owusu Adjah, E.S.**, Samanta, M., Shaw, J.E., Majeed, A., Khunti K., & Paul S.K. Weight loss and mortality risk in patients with different adiposity at diagnosis of type 2 diabetes: a longitudinal cohort study. *Nutrition & diabetes*. 2018 (Published online before print; doi: 10.1038/s41387-018-0042-0).
3. **Owusu Adjah, E.S.**, Bellary S., Hanif W., Patel K., Khunti K., Paul S.K. Prevalence and incidence of complications at diagnosis of T2DM and during follow-up by BMI and ethnicity: a matched case-control analysis. *Cardiovascular Diabetology*. 2018. (Published online before print; doi: 10.1186/s12933-018-0712-1).
4. **Owusu Adjah E.S.**, Montvida O., Agbeve J., Paul S.K. Data Mining Approach to Identify Disease Cohorts from Primary Care Electronic Medical Records: A Case of Diabetes Mellitus. *The Open Bioinformatics Journal*. 2017; 10(1): 16-27.
5. Paul S.K., **Owusu Adjah E.S.**, Samanta M., Patel K., Bellary S., Hanif W., Khunti K. Comparison of body mass index at diagnosis of diabetes in a multiethnic population: a case-control study with matched non-diabetic controls. *Diabetes, Obesity, and Metabolism*. 2017; 19 (7): 1014-1023
6. **Owusu Adjah E.S.**, Agbemaflle I. Determinants of domestic violence against women in Ghana. *BMC public health*. 2016 Dec; 16 (1): 368.
7. **Owusu Adjah E.S.**, Panayiotou A.G. Impact of malaria-related messages on insecticide-treated net (ITN) use for malaria prevention in Ghana. *Malaria journal*. 2014; 13(1):123.

Conference Proceedings / oral presentations

1. **Owusu Adjah E.S.**, Montvida O., Khunti K., Paul S.K. Interactive changes in cardiovascular risk factors and the long-term cardiovascular risk differ by adiposity levels in incident type 2 diabetes patients: real-world study. *Diabetologia*; 2017: Springer 233 Spring St, New York, NY 10013 USA.
2. **Owusu Adjah, E.S.**, & Paul, S. K. Evaluating the Obesity Paradox in Type 2 Diabetes with Real-world Data from Primary Care System. Presented at:
 - i. Australian Diabetes Society and the Australian Diabetes Educators Association, Annual Scientific Meeting, 24-26 August 2016, Gold Coast, Queensland, Australia;
 - ii. QIMR Berghofer Early Career Research Seminars, 23 March 2018, Brisbane, Queensland, Australia

- iii. QIMR Berghofer Early Career Research Seminars, 24 March 2017, Brisbane, Queensland, Australia
- iv. QIMR Berghofer Annual Student Symposium, 15 July 2016, Brisbane, Queensland, Australia
- v. QIMR Berghofer Biennial Student Retreat, 17-18 September 2015, Gold Coast, Queensland, Australia

CURRENT PROFESSIONAL SOCIETIES

Institution	Status or Qualification
European Society for Study of Diabetes	Member
Australian Diabetes Society	Member
Statistical Society of Australia	Member
Society for Epidemiologic Research	Member

AWARDS

Year	Award
2018	Faculty of Medicine Student Travel Award (AU\$ 3560)
2017	European Association for the Study of Diabetes (EASD) student travel grant (€1,500)
2017	QIMR Berghofer Student Travel Award (AU\$ 2,000)
2016-2017	QIMR Berghofer PhD Top-up Scholarship (AU\$ 10,000)
2015-2018	University of Queensland International Scholarship (tuition fees, AU\$ 25,849 stipend)
2015-2018	QIMR Berghofer International PhD scholarship (AU\$25,392 stipend, Health Cover)
2012-2013	Harvard Cyprus Program/Cyprus University of Technology Scholarship (€15,940)

REFERENCES

Available on request