

Habtamu Bizuayehu

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PROFILE SUMMARY

I am a skilled epidemiologist, data analyst, public health specialist with over 10 years of experience in the health industry and academia – experienced with disease surveillance, advanced data analysis, and research. I have expertise in analysing linked administrative data, developing and maintaining REDCap databases, and translating complex datasets into actionable insights that inform public health programs and clinical practice.

In my current role at the Department of Health at Western Australia, I am working on communicable disease and immunisation surveillance using data from the [Western Australian Notifiable Diseases Database](#) (WANIDD), SQL, and the [Australian Immunization Register](#) (AIR). I developed and maintained REDCap databases for notifiable disease surveillance and automated analytical workflows using R for data extraction, importing, cleaning, and reporting. I applied various visualization options such as spatial maps, heatmaps, treemaps; and build interactive dashboards using R Shiny.

I worked as a Research Fellow at the [First Nations Cancer & Wellbeing Research Program](#) at the University of Queensland, leading cancer epidemiology research focused on diagnosis, treatment, and care outcomes for First Nations Peoples. Previously, I managed the [Australian Cancer Atlas](#), led a cancer equity project as principal investigator, and contributed to the First Nations Advisory Group, informing culturally safe strategies for cancer prevention and control. My PhD research on maternal health in Australia was completed using data from the [Australian Longitudinal Study on Women's Health](#).

My analytical expertise spans multilevel modelling, causal modelling via path analysis, longitudinal and survival analysis, missing data handling, and meta-analysis. I have worked on linked datasets such as the Australian Immunisation Register, Queensland Cancer Register, MBS (Medicare Benefits Schedule), PBS (Pharmaceutical Benefits Scheme), Queensland Admitted Patient Data Collection, and hospital records. My academic contributions include authoring a book chapter, publishing over 40 peer-reviewed journal articles, and presenting 18 research outputs at national and international conferences.

I am committed collaborator and mentor, including capacity building and stakeholder engagement. I have supervised over 10 masters and honors students who graduated on time with good grades. I have also supervised junior staff and delivered training workshops on data analysis, REDCap design, and visualisation using R, and supported clinical and public health teams in interpreting analytical outputs. My experience includes ongoing collaboration with clinicians, epidemiologists, Aboriginal Health teams, and policy-makers to support data-informed improvements in health equity, surveillance practice, and service delivery. Detailed educational qualifications, work experience, teaching and research skills, publications, and conference participation are presented below.

EMPLOYMENT HISTORY

For over ten years, I have worked across the health sector, including roles at the Government of Western Australia Department of Health, Cancer Council Queensland, and academic institutions such as the University of Queensland and Debre Markos University. Throughout these roles, I have developed strong expertise in epidemiology, data analysis, public health, research, knowledge translation, teaching and learning, communication, and contributing to positive organisational culture. Please see below for further details on my employment history.

Position: Responsibilities, skills and achievements

Project Officer (Epidemiologist), Department of Health, Western Australia | November 2024 - Present

- Working on communicable disease and immunisation surveillance; perform daily tasks including data analysis and report generation using R and R Markdown; extract and import data into [REDCap](#) and OneDrive from WANIDD ([Western Australian Notifiable Diseases Database](#)) and SQL; and develop and maintain REDCap databases
- Conduct data analysis for weekly, quarterly, and ad hoc public health reports.
- Design, develop, and maintain [REDCap](#) databases for notifiable communicable diseases and immunisation data.
- Lead data analysis and reporting using data from the [Australian Immunization Register](#) (AIR).
- Collaborate on all phases of REDCap database development—from initial draft and process mapping to interface design, user instructions, alerts/notifications, document uploads, stakeholder feedback, testing, and final deployment.
- Using SQL to extract patient-level data from hospital databases across Perth metropolitan areas.
- Troubleshoot REDCap-related issues, manage user access, and update REDCap based on policy changes.
- Perform data extraction, cleaning, manipulation, and visualisation using R.
- Work effectively both independently and as part of a multidisciplinary team.
- Communicate and collaborate with clinicians, and the Aboriginal Health Team to support public health operations.
- Led and delivered workshops on advanced data analysis and visualisation, including spatial mapping to illustrate vaccination coverage across Western Australia.

Postdoctoral Research Fellow | The University of Queensland | January 2023- November 2024

- Led and conducted cancer epidemiology and equity research by First Nations status.
- Analyzed linked administrative and clinical data, such as the Queensland Cancer Register, Pharmaceutical Benefits Scheme, Medicare Benefits Schedule, and Queensland Admitted Patient Data Collection.
- Led national and global research on cancer screening, treatment uptake, and related factors among First Nations Peoples.
- Conduct data extraction, cleaning, manipulation, and visualization
- Applied for relevant research grants and secured two grants.
- Managed projects e.g. got approval for ethics applications.
- Worked effectively both in a team and independently.
- Liaised and communicated with clinicians, data custodians, and the Australian Institute of Health and Welfare.
- Engaged with health promotion and advocacy e.g. engaged with First Nations Peoples at the [Queensland Murri Carnival](#).
- Provided workshops and supervised junior staff and students, sharing research knowledge and skills.

Senior Research Officer | Epidemiology Unit, Cancer Council Queensland | February 2022- January 2023

- Managed the Australian Cancer Atlas project (<https://atlas.cancer.org.au/>).
 - Led epidemiological research on cancer as the principal investigator.
 - Applied for and received ethics approval for the Australian Cancer Atlas project.
 - Maintained ethical protocols, ethics extensions and amendments, and reporting requirements.
 - Liaised and collaborated with data custodians, the Australian Institute of Health and Welfare, and Project Advisory Groups.
 - Designed and developed website content for the Australian Cancer Atlas.
 - Served as Early Career Researcher Cancer Epidemiology Conference organising committee member.
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First Nations Advisory Group member | Cancer Council Queensland | May 2022- January 2023

- Worked closely with First Nations representatives to bring the First Nations agenda and embed it into business as usual.
 - Provided expert opinion to ensure equity in cancer prevention, timely diagnosis, and outcomes.
 - Expanded connections, involvement, and contributions to the organizational business.
 - Advised and advocated for targeted initiatives and contributed to the 2022-2027 strategic plan at Cancer Council Queensland, which prioritizes cancer screening, timely diagnosis, and culturally competent care for First Nations Peoples.
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Researcher and Lecturer | Debre Markos University | September 2010 – February 2022

- Led and provided epidemiological advice for surveillance, disease monitoring, and program implementations.
 - Taught Public Health, Epidemiology, and Biostatistics courses.
 - Led or contributed to the preparation of scientific publications, reports, and educational materials.
 - Applied for research grants and successfully secured five grants.
 - Supervised eight master's students and assisted junior staff.
 - Served as Head of the Public Health Department (leadership role).
 - Served as Epidemiology and Biostatistics course coordinator.
 - Effectively communicated and collaborated with internal and external stakeholders.
 - Led Health Promotion initiatives such as measles epidemic and sexually transmitted diseases prevention.
 - Published over ten peer-reviewed journal articles and presented at conferences.
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Researcher: PhD Student | The University of Newcastle | May 2017-December 2021

- PhD project completed using both quantitative data and systematic review
- Used the Australian Longitudinal Study on Women's Health (<https://alswh.org.au/>), a national data collected over 20 years.
- Managed data, including data linkage, merging and appending, and missing data analysis and management.
- Employed rigorous data cleaning methods, including identifying duplicate observations, outliers, structural problems, and managing missing data through techniques like mean imputation and multiple imputation.
- Applied advanced statistical models, including causal modeling using path analysis, multilevel analysis, Generalised Estimating Equation (GEE), Generalised Linear Mixed Model (GLMM), and missing data analysis.
- Teamwork and communicated the data cleaning stages and analysis plans.
- Served as a committee member of the African Research Partnership at the University of Newcastle, Australia.
- Authored four first-author peer-reviewed journal articles and presented at three conferences.

QUALIFICATIONS

Completed a PhD in Public Health and Behavioural Sciences, a Master of Public Health in Epidemiology and a Bachelor of Science in Public Health qualification.

Doctor of Philosophy in Public Health and Behavioural Sciences | The University of Newcastle, Australia | 2021

Thesis Topic Adverse Pregnancy Outcomes in Australia: Prevalence, Recurrence, Pattern of Multiple Outcomes, and Risk Factors: The full thesis can be accessed [online here](#).

Study Summary and Outcomes

- The study was carried out using national-level longitudinal data (The [Australian Longitudinal Study on Women's Health](#)) and a systematic review.
- Applied causal modelling, multilevel analysis, missing data analysis and data management
- Used STATA and R statistical software
- Authored four first-author peer-reviewed journal articles and presented at three conferences.

Courses completed:

- Applied Longitudinal Analysis (BIOS6990)
- Generalised Linear Models (BIOS6940)

Master of Public Health in Epidemiology | Addis Ababa University, Ethiopia | 2013

Thesis Topic Assessment of Time to Recurrence of Opportunistic Infections in People Living with HIV/AIDS, in Debre Markos Town, East Gojjam Zone, North West Ethiopia, in 2013. (Retrospective Cohort Study). The full thesis can be accessed [online here](#).

Study Summary and Outcomes

- Management and analysis of clinical and administrative data from hospitals.
- Applied skills in survival analysis, generalized linear modeling, effective communication, ethics applications, and data management.
- Used SPSS, STATA, and Epi Info statistical software
- Published study outcomes in peer-reviewed journals and presented at conferences.

Core Training:

- Advanced Epidemiology, Advanced Biostatistics, Nutrition, Genetic Epidemiology, Communicable and Non-Communicable Disease Prevention, Environmental Health, Health Service Management, and Behavioural Sciences and Health Promotion.

Bachelor of Science in Public Health | Hawassa University, Ethiopia | 2010

Summary of Qualification

- A four-year program that addressed theoretical and practice for public health and clinical courses
- Graduated as first-ranked student among 50 peers
- Employed as a Junior Lecturer at Debre Markos University due to high academic achievement.
- Gained industry experience through placements in primary healthcare and hospitals.

Core Training:

- **Public Health:** Public Health, Health Promotion, Epidemiology, Biostatistics, Nutrition, Environmental Health and Disease Prevention and Control were among the main ones.
- **Medical:** Internal Medicine (I & II), Paediatrics (I & II), Obstetrics and Gynaecology (I & II), Surgery (I & II) and Nursing.

PROJECT PORTFOLIO

- [**Dashboard via R Shiny: click here**](#)
- **Software Programming:** R and other software programming projects are available at my [GitHub](#) or [AnalyticsHub](#) Youtube.
- **Scientific Writing, Project Management & Leadership:** Scientific writing, reports publications, grant awards, project management, leadership presented at my [website](#) or [Google Scholar Profile](#), [ORCID Profile](#).

STATISTICAL SOFTWARE'S AND TOOLS

- **R, R markdown, Quarto**
- **REDCap**
- **SQL**
- **POWER BI**
- **STATA**
- **Python**

DATA VISUALISATION, INTERPRETATION, AND PRESENTATION

- Visualised disease trends and program performance using diverse chart types—including spatial maps, line plots, heatmaps, treemaps, and numerical summaries.
- Developed interactive dashboards using R Shiny app to deliver tailored, user-friendly displays of data outputs for decision support. [Click the link to view an example of an interactive dashboard created using R Shiny](#).
- Interpreted and data analysis result patterns, trends, risk factors, predictions and model outcomes
- Presented results in a written summary and graphical visualisations e.g. web applications, tables, charts, graphs
- Critically evaluated the audience type and prepared customer-friendly reports e.g. content, depth, attention, acceptance, and visualisations. Presented results for government officials, academic community and lay audience.
- Used various platforms to disseminate project outcomes e.g. reports, dashboard, leaflets, flyers, brochures, peer-reviewed publications, conferences, and workshops.

DATA ANALYSIS AND STATISTICAL MODEL APPLICATIONS

- Mastered both categorical and continuous data analysis techniques e.g. applied basic and advanced visualisations such as mapping using spatial analysis, creating interactive dashboard using R shiny and Power BI, descriptive summaries and modelling using generalised linear models.
- Cleaned data using frequencies, listing, sorting and labelled the variables.
- Executed data accuracy and sample integrity through following data cleaning methods e.g. identifying duplicate observations, outliers, structural problems, missing data analysis and management.
- Applied advanced statistical models such as causal modelling using path analysis, multilevel analysis, Generalised Estimating Equation (GEE), Generalised Linear Mixed Model (GLMM), survival analysis, and missing data analysis.

STATISTICAL METHOD APPLICATIONS

- Worked with linked administrative datasets, gained skills in linking data using unique identifiers, understand variable definitions ICD coding systems, and translated complex datasets into meaningful project ideas and actionable insights.
- Completed quantitative and qualitative research and evidence synthesis using systematic reviews and meta-analysis
- Accomplished various epidemiological study designs such as longitudinal study, prospective and retrospective cohort study, case-control study and cross-sectional study designs
- Performed studies that were carried out both in community and clinical settings.
- Implemented sample size calculation, sample frame preparation and sampling.
- Developed data collection tools and validated them with pretesting.
- Prepared a standard ethical application document and got approval for over seven research projects.

MANAGED LARGE AND COMPLEX PROJECTS

- Completed projects using administrative data comprising the Australian Immunization Register (AIR), Western Australian Notifiable Diseases Database (WANIDD), REDCap, Queensland Cancer Register, Pharmaceutical Benefits Scheme (PBS), Medicare Benefits Schedule (MBS), and Queensland Admitted Patient Data Collection (QAPDC). Completed communicable disease incidence, vaccination coverage and cancer epidemiology, treatment patterns.
- Completed research using the Australian Longitudinal Study on Women's Health (ALSWH), which is a national-level big data collected prospectively over 20 years
- Completed five national-level large projects in Ethiopia that were carried out in clinical and population setting
- Experienced in data management such as data linkage, merging and appending, data cleaning, and missing data management.
- Executed focus group discussion and key informant in-depth interview for qualitative research, arranged the interview setting, identified data saturation, transcribed the interview and wrote the report.

COMMUNICATION, ORGANISATIONAL AND LEADERSHIP SKILLS

- First Nations Advisory Group at the Cancer Council Queensland / 2022
- Organising committee for the Early Career Researchers Conference about Cancer Epidemiology / 2022
- Committee member of African Research partnership at the University of Newcastle, Australia / 2019-2021
- General Secretary of the Postgraduate Students Association at the University of Newcastle, Australia / 2019
- Team Leader for the Department of Public Health, *Debre Markos University, Ethiopia* / 2016
- Team Leader and state-level coordinator in many biomedical research surveys / 2013-2017
- Organiser for Essential Clinical Research Skills training, which was offered by The Global Health Network / 2015

Key Roles and Achievements:

- Responsible for communicating with internal and external stakeholders, creating a healthy working environment
- Effectively communicated with audiences e.g. during meetings, workshop and conference presentations
- Proved written communications while publishing project reports, research papers, annual plan preparation
- Worked independently with minimal supervision as well as in a team with culturally and linguistically diverse background staff, students, research participants, industry, community members and other stakeholders
- Experienced in preparation of specific, measurable, feasible and time-bounded tasks
- Adhered and implemented safety work health policies e.g. followed COVID-19 precautions and being tested
- Experienced in negotiation and problem-solving through active listening, open-minded, meeting the needs and expectation

PUBLICATIONS and REPORTS

I have authored over 40 peer-reviewed journal articles, more than two major reports, and a book chapter, with a first or senior author in over 15 publications. I have presented my research outputs at 18 conferences, including those hosted by the Public Health Association of Australia, Australasian Epidemiological Association, and World Indigenous Cancer Conference.

The full list of published articles can be accessed on my [website](#) or [Google Scholar Profile](#), [ORCID Profile](#).

REFERENCE: Available and will be provided upon request
