


MEIRU

Malawi Epidemiology and
Intervention Research Unit



Photograph: MEIRU staff and community key informants updating vital events in the Karonga Health and Demographic Surveillance System
Written consent for photography provided

ANNUAL REPORT 2024

Table of Contents	Page
Introduction	3
Senior Management Team	5
Research Grants Overview	6
Key Research Study Reports	7
A. Health and Demographic Surveillance System (HDSS) 2024	7
B. Long-Term Conditions (LLT) Survey 2024	8
C. SAFE Motherhood Study 2024	9
D. Depression Genetics in Africa 2024	10
E. Generation Malawi 2024	11
F. Cardiovascular Disease Study 2024	12
G. Public Engagement 2024	13
PhD Report	14
Departmental Reports	15
A. Data Section Activities 2024	15
B. Laboratory and Biorepository Work 2024	16
C. Infrastructure & Technical Operations Report 2024	17
Key Collaborators	18
Finance	19
Accounting: Preliminary Remarks 2024 Income Statement	
2024 Balance Sheet	

Introduction

Malawi Epidemiology and Intervention Research Unit (MEIRU), is an independent research unit and a non-profit organisation in Malawi (NGO Board No. NGO/L/17/036 and CONGOMA No. C109). It was formed as a partnership between Malawi Ministry of Health, Kamuzu University of Health Sciences (KUHeS), London School of Hygiene & Tropical Medicine (LSHTM), & the University of Glasgow (UoG). MEIRU is a research affiliate of KUHeS.

Population studies in rural Karonga have been conducted since 1979, with extension to urban Lilongwe in 2013. MEIRU has extensive facilities including a rural 15-acre campus houses administration, Data & IT hub, Laboratories & Biorepository, workshop, stores with 10 clinic rooms at the nearby facility. In Lilongwe, MEIRU has an urban health facility 14-unit research & clinical block and, elsewhere in the city, a 12-room administration, researcher, meeting, Data & IT hub and Laboratory & Biorepository. MEIRU has approximately 250 staff, including the research/academic team, which is predominantly Malawian, hosting several expatriate researchers and students at any one time. Further information may be found on the MEIRU website (www.meiru.info).

Mission Statement

To conduct research on the control and prevention of high burden diseases as well as other issues of public health importance in Malawi to international levels of excellence.

To develop capacity of researchers in Malawi as well as from outside Malawi, both regional and from further afield, e.g. through formal courses and through on-the-job training,

To seek the involvement of all relevant stakeholders in order to maximize benefits from the research for the people of Malawi, including local academia, policy makers, community and patient groups.

Board of Trustees

During 2024 the board comprised the following members

Malawi Ministry of Health:	Dr Charles Mwansambo
Kamuzu University of Health Sciences:	Prof MacWellings Mallewa (Chairperson) Prof Victor Mwapasa
London Sch of Hygiene & Tropical Medicine	Prof John Edmunds (to be replaced in 2025 by Prof Caroline Relton)
University of Glasgow	Prof Paul Garside (to be replaced in 2025 by Prof Andy Waters)

Senior Management Team 2024



Prof Amelia (Mia) Crampin is the Director of MEIRU. She is Professor of Global Health Epidemiology at the [University of Glasgow](#) and Professor of Epidemiology with the [London School of Hygiene & Tropical Medicine](#) and holds an Honorary position at the Kamuzu University of Health Sciences.



Laurence Tembo is the Programme Manager for MEIRU and is responsible for supporting scientific programme, including leading on finance, HR, IT and technical aspects of the operations for MEIRU.



Dr. Thandile Nkosi-Gondwe is the science Program Manager at MEIRU, stationed in Chilumba, Karonga. She is Assistant Professor in the Faculty of Epidemiology and Population Health at the London School of Hygiene and Tropical Medicine.



Louis Banda is the Laboratory Manager for MEIRU, responsible for day to day running of the laboratory research work both in Lilongwe and Karonga, sample storage, laboratory procurement, advising researchers on laboratory issues and laboratory budget preparation.



Dr Owen Nkoka is an epidemiologist and lead on Healthy Lives Malawi. He is a Research Associate in the Department of Public Health within the School of Health and Wellbeing at University of Glasgow, seconded to MEIRU.



Dr Wisdom Nakanga is a clinician scientist leading the Generation Malawi Birth Cohort. He is a post-doctoral research fellow at the University of Edinburgh seconded to MEIRU



Albert Dube is a demographer and social scientist and research manager on Healthy Lives Malawi.

OVERVIEW OF THE YEAR: RESEARCH GRANTS OVERVIEW

As of 01/01/2024

Start date	Funder	Amount	Title	PI Institution	MEIRU Grant #
11/01/2021	Bill & Melinda Gates Foundation	\$131,177	Rapid Mortality Surveillance during COVID-19 - RAMMPS	LSHTM	530
17/08/2021	Wellcome Trust	£74,764	A spatiotemporal analysis of liver disease in Malawi - CHIWINDI	University of Liverpool	615
01/12/2021	Bill & Melinda Gates Foundation	\$691,937	Sero-surveillance in Malawi (SEROSURV-MW)	University of Liverpool	625
01/02/2023	Wellcome Trust	\$136,486	Collaboration for the Establishment of the APCC The African Population Cohort Consortium	APCC	505
01/03/2023	Wellcome Trust	£82,680	Understanding risk factors for progressive chronic kidney disease in Malawi to inform interventions for earlier detection and prevention	University of Glasgow	616
01/09/2019	Wellcome Trust	£4,572,302	Healthy Lives Malawi Wellcome - LPS	University of Glasgow	785
01/02/2021	Wellcome Trust	£239,204	Public Engagement - Strengthening HLM	University of Glasgow	786
01/08/2019	GCRF	£2,502,046	Generation Malawi: A study of family, maternal and childhood mental health	University of Edinburgh	920
01/08/2019	KUhes	£123,739	KUhes Generation Malawi	University of Edinburgh	922
01/08/2022	NIHR	£425,164	SAFE Motherhood: Improving Quality of Maternal Healthcare in Africa	University of Liverpool	630
01/03/2022	MRC	£31,770	'Assessing the impact of genetic variation on chronic kidney disease in Africa	LSHTM	721
01/03/2022	Wellcome Trust	£763,851	Cardiovascular Disease in Low-income Sub-Saharan Africa	LSHTM	525
01/02/2022	Wellcome Trust	£391,255	Depression Genetics in Africa	University of Edinburgh	931

Starting during 2024

Start date	Funder	MEIRU Contract	Title	PI (institution)	MEIRU Grant #
01/07/2024	NIHR	£499,274	Improving outcomes for people with diabetes in Sub-Saharan Africa	University of Exeter	810
01/04/2024	Wellcome Trust	£59,743	"Behavioral Determinants of Multimorbidity in Malawi"	University of Glasgow	788

Completed during 2024

Start date	Funder	MEIRU contract	Title	PI (institution)	MEIRU Grant #
01/03/2022	MRC	£31,770	'Assessing the impact of genetic variation on chronic kidney disease in Africa	LSHTM	721
01/12/2021	Bill & Melinda Gates Foundation	\$691,937	Sero-surveillance in Malawi (SEROSURV-MW)	University of Liverpool	625
01/08/2019	KUhes	£123,739	KUhes Generation Malawi	University of Edinburgh	922
01/02/2023	Wellcome Trust	\$136,486	Collaboration for the Establishment of the APCC The African Population Cohort Consortium (CE-APCC)	APCC	505
11/01/2021	Bill & Melinda Gates Foundation	\$131,177	Rapid Mortality Surveillance during COVID-19 - RAMMPS	LSHTM	530
17/08/2021	Wellcome Trust	£74,764	A spatiotemporal analysis of liver disease in Malawi - CHIWINDI	University of Liverpool	615

KEY RESEARCH STUDY REPORTS

A. PROGRESS REPORT ON HEALTH AND DEMOGRAPHIC SURVEILLANCE SYSTEM (HDSS) 2024

The overall aim of this work is to continue the high-quality demographic surveillance in Karonga district and to establish novel urban demographic surveillance in the high-density sectors of Area 25, Lilongwe. The data generated from this study will provide a deep understanding of the mobility, socioeconomic and demographic indices of a sample urban population in Malawi and provide a platform for longitudinal studies of long-term conditions. We have done the following so far:

Strengthening of the existing Karonga Rural HDSS

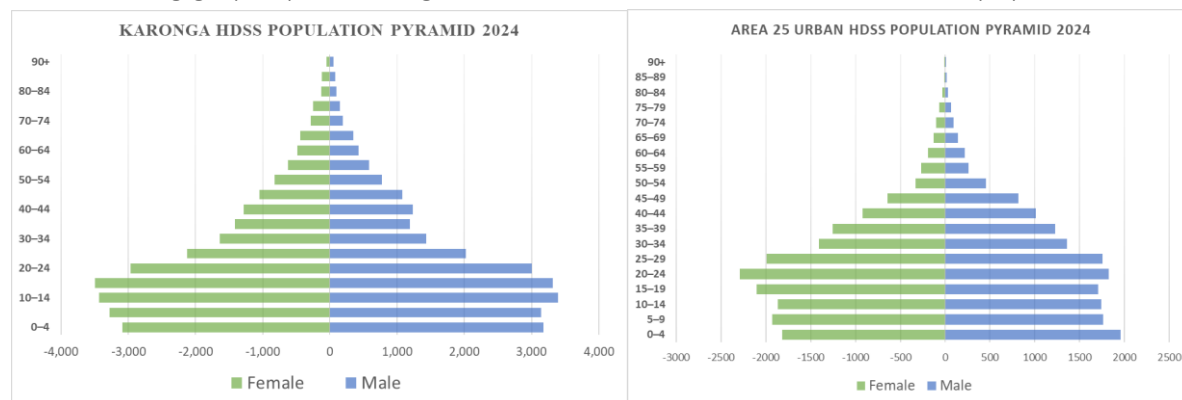
In Karonga, there has been no new cluster formation during this reporting. We still have 394 key informants. A total of 444 monthly meetings have been conducted with key informants. From these meetings a total of 1317 births were reported and registered. We also received and registered a total of 178 deaths. Since the last approval we have updated socioeconomic status of 4567 households and 20398 individuals. Currently Karonga Health and Demographic surveillance system has an active population of 53000 individuals

Establishing an Urban HDSS site in Area 25

In Lilongwe. Area 25, we have revised the total number of reporting groups from 34 to 28. Recruitment of HDSS participants has been completed in all the 28 reporting groups. We have recruited a total of 39000 individuals into the Urban HDSS since the start of the urban HDSS. In both Karonga and Lilongwe, there are a total of 92000 individuals under surveillance (i.e., 53000 individuals in Karonga and 39000 in Lilongwe).

Age and Sex Structure of the urban and rural populations

The following graphs presents age and sex structure of the rural and urban populations under surveillance



HDSS plans

We are continuing with continuous registration of demographic events: Births, deaths, immigration and emigration and annual update of social and economic status of the rural HDSS population in Karonga. We are starting re-census; a continuous registration of demographic events: Births, deaths, immigration and emigration and annual update of social and economic status of the urban HDSS population in Area 25 in Lilongwe

B. PROGRESS REPORT ON LONG-TERM CONDITIONS (LTC) SURVEY 2024

The Long-Term Conditions (LTC) survey continues to make significant progress in its data collection activities. To date, we have successfully recruited over 29,000 adolescents and adults, with 19,818 participants from rural site and 9,249 from urban site. Recruitment efforts are ongoing, with an expected completion for the rural site in April, while reinforcement strategies are being implemented to enhance recruitment in the urban site.

Key Achievements

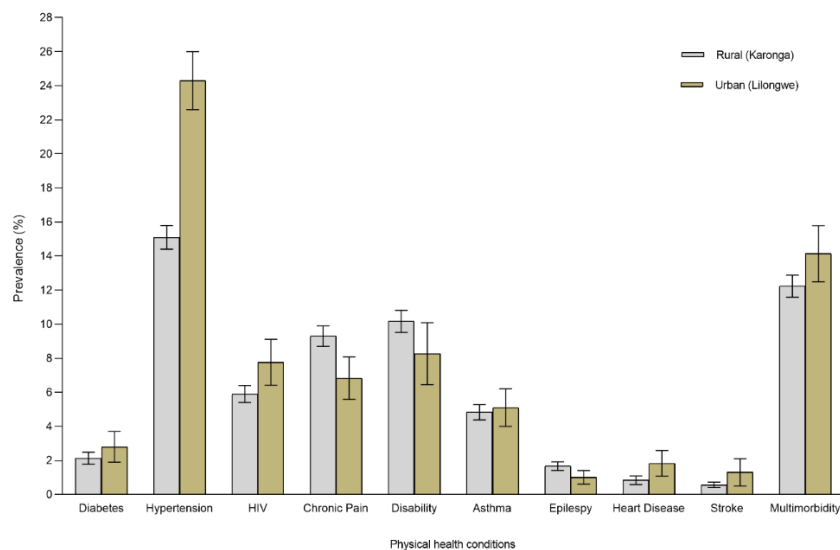
PhD and Sub-Studies: The LTC survey has successfully nested four PhD studies, along with several sub-studies, including serosurveillance and the Child Malnutrition & Adult NCDs study.

Publications: A paper has been published presenting a preliminary analysis of the association between physical health multimorbidity and common mental health disorders. Additionally, nine abstracts have been presented at the local research dissemination conference at Kamuzu University of Health Sciences.

Ongoing Research: The study continues to serve as a valuable resource, with several additional studies nested within it that are yet to commence. These future studies will further enhance understanding of long-term conditions in both rural and urban settings.

Next Steps

- Finalizing recruitment in the rural site by April.
- Strengthening recruitment efforts in the urban site.
- Supporting ongoing and future research leveraging the LTC survey data to address key health challenges.



Prevalence of long-term conditions in rural and urban sites and multimorbidity of these conditions

C. PROGRESS REPORT ON SAFE MOTHERHOOD STUDY 2024

Theme 1: Data Driving Improvement

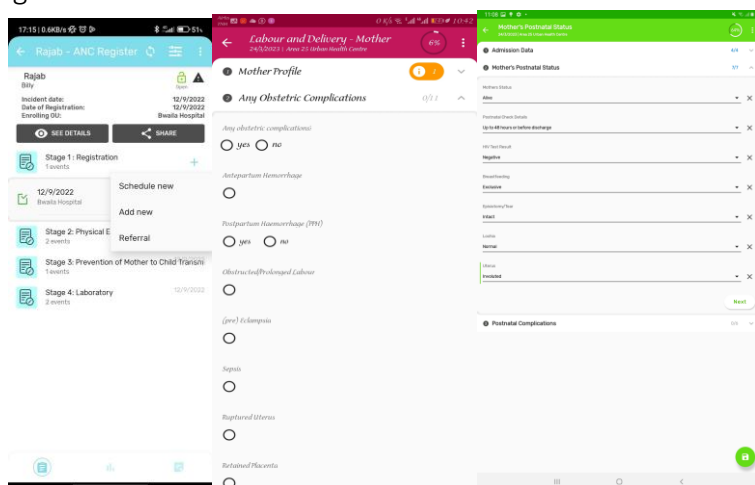
Work Package 2: Validating facility based maternity data against established community Demographic Surveillance Systems

The Work package 2, focusing on "Data Driving Improvement," aims to validate facility-based maternity data by linking it with community data from HDSS in Chilumba and Area 25. This data linkage approach combines routine health systems data, captured via the eRegister platform (an electronic health records system built on DHIS2), with community vital event surveillance data, which tracks births and deaths. The e-register's longitudinal patient tracking capabilities, recording registration details and subsequent visits, enable a comprehensive view of individual healthcare journeys. By linking this facility-based data with the HDSS data on births, deaths, and other demographic events (migrations, verbal autopsies), the study aims to identify gaps in facility data, understand loss-to-follow-up, and analyse long-term maternal and neonatal health outcomes. This integrated dataset will provide a more comprehensive picture of maternal and neonatal health than either data source could offer alone, ultimately informing quality improvement efforts.

2024 Progress to date

- Enhanced e-register data capture in health facilities by recruiting data officers to address backlogged and point-of-care clinic data. Approximately 25-40 percent of 2024 maternal health data has been captured across three facilities.
- A preliminary data linkage exercise yielded low linkage rates due to the lack of a standard linking ID.
- Research on alternative methods, including AI models successfully used in Tanzania, is complete. Datasets are currently being prepared for AI model testing and implementation.
- Other milestones include developing computer programs to extract and attempt linking eRegister data with Karonga and Lilongwe HDSS identifiers and collaborating with external experts to develop an efficient linkage system.

E-register in DHIS2 Tracker



E-Register
User centric approach: MOH (DHD, RHD, CMED), DHO and health workers involved in all steps
Modules deployed

- Antenatal Care
- Maternity
- Postnatal Care

The forecast is to build, with Tanzanian colleagues, a data linkage model adapted to the local context within the next six months.

D. PROGRESS REPORT ON DEPRESSION GENETICS IN AFRICA 2024



Major Depressive Disorder (MDD) is a disabling condition that arises from the interplay of genetic and environmental risk factors. Most genetic studies of depression to date have failed to include continental African populations. As a result, risk-associated genetic variation among African populations remains undiscovered, and its potential specificity and interactions with environmental factors are unclear.

The Depression Genetics in Africa (DepGenAfrica) study aims to 1) characterise depressive syndromes and identify the genetic architecture of MDD in 12,000 individuals (8000 cases and 4000 controls) living in Western (Nigeria), Eastern (Ethiopia) and Southern (Malawi) Sub-Saharan Africa through new data collections and collaborations with existing and ongoing projects; 2) compare the symptoms, associations and genetic architectures of MDD of participants with other African and European ancestry populations to build complete global picture of its aetiology; and 3) perform downstream analyses of African MDD genetic data to investigate underlying biology and risk factors.

In Malawi, the DepGen study will leverage data and sample collection currently ongoing in the Healthy Lives and Generation Malawi studies.

The DepGenAfrica study will help fill the substantial gap in our understanding of risk mechanisms, natural course and outcomes of MDD in continental African individuals. This will enhance global understanding and ensure that Africans benefit from risk prediction, early intervention and therapeutic (including pharmacogenomic) strategies.

In 2024 we obtained ethical approval to conduct genomic and metabolic analysis on 20,000 participants recruited in these prospective cohorts.

E. PROGRESS REPORT ON GENERATION MALAWI 2024

Generational Malawi is an observational birth cohort investigating mental health and physical long-term conditions in families in rural and urban Malawi.

Malawi is at a unique time point when infectious disease and undernutrition persist whilst non-communicable long-term physical and mental health conditions are emerging. However, there has been very limited research to date into the determinants of health-related trajectories over time, particularly the role of pre-natal and early life in pre-determining long-term conditions later on in life.

The study aims to establish a multi-generational family/birth cohort in rural and urban Malawi to study the longitudinal course and pregnancy, early-life and intergenerational effects for long-term mental and physical health conditions. This study is nested within the open, population-based cohorts in rural (southern Karonga District) and urban (high-density sectors of Lilongwe Area 25) Malawi.

This work is supported by the UKRI Medical Research Council (MRC) grant number MR/S035818/1. In 2024 we were successful in a new award from UKRI to extend the sample size and duration of follow up (to 36 months), until 2029.

The study intends to enroll up to 5000 women aged 16 years and above. We are recruiting pregnant women and their spouses during early pregnancy and follow them until the child is born. At delivery, the baby is recruited into the study, and we follow the family at one week, six weeks, four months, twelve months, twenty four months and thirty six months after delivery.



At each point, we conduct detailed interviewer-led questionnaires, physical measurements and collection of bio-samples for immediate analysis and long-term storage.

Since initiation of the GM grant in August 2019 (initially with substantially interrupted activities during COVID), we have completed the formative work, staff recruitment and training, stakeholder engagement and sensitisation, tool development and validation, protocol and SOP development (including field, data and laboratory), ethical approvals, established recruitment and follow-up (in both the rural and urban settings) and made substantial progress towards the recruitment targets (exceeding 2,000 families by end 2024).

The data from this cohort will help us understand the causes of long-term ill health and, in the future, help develop effective interventions to prevent and treat these conditions.

We have been awarded several major linked grants, have created opportunities for PhD students and fellowships linked to the award, and have generated multiple outputs from the work.

F. PROGRESS REPORT ON CARDIOVASCULAR DISEASE STUDY 2024

The aim of this study is to understand the burden and risk factors for cardiovascular disease in urban and rural Malawi, to inform public health interventions. The following activities were conducted in 2024:

Karonga rural cohort – We have over the past year continued recruitment, which commenced in 2023. We have also conducted a 6 month refresher training with medical field staff to ensure that they are following the study procedures and engaged with external cardiovascular experts for input in the verification of CVD outcomes.

Lilongwe urban cohort- We recruited 4 team members (3 clinical officers and a nurse) for the urban cohort and started recruitment of participants in the study in March 2024 following a 3 month period of training with medical field staff to ensure that they are competent in the study procedures.

Recruitment rate - We have approached a total of 1723 eligible individuals (including potential CVD cases and healthy controls) out of which 1558 have been recruited and interviewed representing a 90% response rate, overall.

Findings – These are early data that are being processed, checked and cleaned. All data require verification via an expert cardiovascular disease panel before a final study outcomes are determined.

Summary

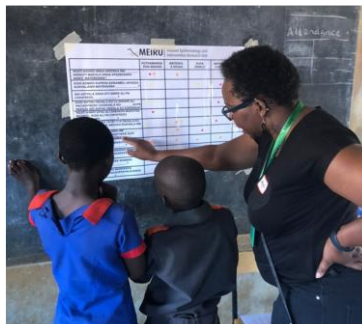
In 2024, we have successfully implemented CVD surveillance in the urban cohort and continued recruitment in the rural cohort, with data collection ongoing for 2025.



Photographs: Participants having cardiac examinations and imaging carried out in clinic and community in CVD study
Written consent for photography provided.

G. PROGRESS REPORT ON PUBLIC ENGAGEMENT 2024

MEIRU engages Primary School Learners on Long-term Conditions



MEIRU successfully completed its first Wellcome-funded public engagement activity, engaging primary school learners at Chipala and Kabwabwa schools in Lilongwe and St Anne's and Mabalani schools in Karonga. The 22 learners per school shared their health concerns, focusing on how their environment

and parents' long-term conditions affect their health. Through workshops, the learners designed research questions about Non-Communicable Diseases (NCDs) in Malawi, which MEIRU scientists answered using their databases. The learners expressed their findings through plays, poems, songs, and dances, addressing health issues and seeking support from their communities, leaders, and parents.

Launching Episode 1 of Growing Up in Malawi



"Growing Up in Malawi: Episode 1: Journey to Motherhood" was launched on 10th October 2024 in Lilongwe at an exclusive screening event was hosted by the British High Commissioner to Malawi, Her Excellency Fiona Ritchie in collaboration with MEIRU. The documentary offers a glimpse into the pregnancy and early motherhood experiences of families from rural Karonga and urban Lilongwe as part of the Generation Malawi study. This is one of three planned episodes of the series. The event featured screening, a Q&A session with MEIRU researchers, and a networking opportunity with key stakeholders in public health. Generation Malawi participants were also present. The episodes are available on the MEIRU Malawi YouTube Channel.

MEIRU commemorates #WorldKidneyDay with the community in Thunduti in Chilumba, Karonga

To mark World Kidney Day on March 14th, 2024, MEIRU hosted a community engagement event at Thunduti Primary School in Karonga. This year's theme, "Kidney Health for All: Advancing Equitable Access to Care and Optimal Medication Practice," focused on raising awareness about chronic kidney disease and related long-term conditions.



Consent for photography included as part of participation consent in Public Engagement activities

PROGRESS REPORT MEIRU PhD STUDENTS 2024

Salome Chibwana (University of Edinburgh), Institutional award PhD

Topic: The interplay between perinatal bonding, maternal mental health, social support, and adversity in Malawi: a mixed methods analysis

Status: Writing up, submission 2025

Susan Kanjira (University of Edinburgh), Institutional award PhD

Topic: Genetics of depression in people of African Ancestry

Status: Writing up, submission 2025

Nick Riches (Liverpool School of Tropical Medicine) Wellcome PhD fellowship

Topic: Investigating the burden of liver disease among high-risk urban and rural cohorts in Malawi

Status: Writing up, submission 2025.

Nozgechi Phiri (University of Glasgow), fee-waiver part-time PhD

Topic: Understanding experiences of live with multiple long-term conditions

Status: Writing up, submission 2025.

Junious Sichali (University of Bath), British Academy, grant funded PhD.

Topic: Young People, Gambling Advertising and Harm Prevention in Sub-Saharan Africa

Status: Upgraded, data collection

Ben Warner (University of Glasgow), Wellcome Clinical PhD fellow

Topic: Behavioural determinants of multimorbidity in Malawi

Status: Upgraded, data collection

Shekinah Munthali (University of Exeter), NIHR grant funded PhD.

Topic: Development of interventions for Type 2 Diabetes in Malawi and Uganda

Status: Newly registered

Josephine Gondwe (University of Exeter), NIHR grant funded PhD

Topic: Risk factors for Type 2 Diabetes in Malawi and Uganda

Status: Newly registered

DEPARTMENTAL REPORTS

A. PROGRESS REPORT ON DATA SECTION ACTIVITIES 2024

Overview

The Data section played a crucial role in supporting research activities across various studies in 2024. Its contributions were centred around four key areas: Data Infrastructure Upgrade, Programming, Data Management, and Data Documentation and Repository. These efforts ensured the integrity, accessibility, and efficiency of data processes, which are critical for the success of ongoing and future research initiatives.

1. Data Infrastructure Upgrade

In 2024, the IT team, working closely with the data and programming teams, successfully completed the first phase of a comprehensive data infrastructure upgrade. This strategic initiative was designed to enhance the scalability, security, and performance of systems responsible for data storage and processing. Key improvements in this phase included migrating to Windows Server 2012 and Office 365, as well as optimizing VPN connectivity between the Meiru headquarters and the field offices in Chilumba and Area 25. This enhanced connectivity now enables field staff in Area 25 to securely upload data directly to the Meiru server at CHSU area 3. Additionally, advanced data backup protocols were implemented, and servers were upgraded to handle larger datasets, significantly reducing downtime and boosting the overall efficiency of data operations.

2. Programming

The programming team played a key role in developing data collection tools for various studies. They created electronic data capture (EDC) systems, using ODK (Open Data Kit) to build these tools. The team continues to design user-friendly interfaces for data entry and procedures to manage field logs and sample reception at the lab. They also developed scripts for data validation and quality checks, streamlining data collection and reducing errors. These efforts have enabled efficient, high-quality data collection. Most subsystems for managing urban HDSS are complete, and preparations for re-census are underway, with the database ready to begin receiving re-census data.

3. Data Management

Data management remained a core focus in 2024. The team ensured that data were collected in compliance with established standards and protocols. Key activities included data cleaning, quality assurance, and resolving discrepancies in datasets. Additionally, the team handled numerous data requests from both internal and external researchers, providing them with clean, well-structured datasets for analysis. This has facilitated timely and accurate research outputs.

4. Data Documentation and Repository

The Data section made significant progress in documenting studies and managing Meiru data repositories. Metadata for most studies were documented and uploaded to both internal and external Meiru data repositories (NADA Catalog), enhancing discoverability and accessibility for authorized users. This effort strengthened data transparency and compliance with data-sharing policies set by funding agencies and journals. Additionally, the team is exploring a new metadata editor, with one member attending a World Bank workshop to enhance skills in its use.

B. PROGRESS REPORT LABORATORY AND BIOREPOSITORY WORK 2024

The biorepository plays a critical role in supporting scientific research by storing, managing, and providing biological specimens for various studies. In 2024, our biorepository continued to advance its goal of providing highest standards of specimen collection, storage, and distribution for researchers, while adhering to ethical and legal requirements.

Key Activities and Achievements

1. Specimen Collection, Testing and Storage
 - Total Specimens Collected: 51,028 biological samples were collected, including blood, tissue, swabs, stool, and urine samples. 25,422 for Karonga and 25,606 for Lilongwe.
 - Total Specimens Tested: 22,750 biological samples were tested including 9,608 FBC tests, 8,933 glucose tests, 3,572 lipid profiles tests, 625 urine microscopy.
 - Sample Storage: A total of 153,565 labelled specimens and aliquots were successfully cataloged and stored in our cryogenic -80°C freezers, a summary of which has been indicated in the table below.
 - Types of Specimens: Diverse human biological specimens
2. Data Management and Quality Control
 - Sample Tracking: A barcoding system ensures better tracking and management of specimen. Freezer works software is used for storage management.
 - Quality Assurance: Regular quality checks ensuring that samples in optimal.
3. Collaborations and Outreach
 - Collaborative Partnerships: We have partnerships with leading research institutions, providing samples for studies in metabolomics, immunology, and genomics.

Challenges

In 2024, our biorepository faced some challenges, particularly related to the growing demand for specimens. The need for more storage space became evident, as the biorepository's capacity reached 85% of its storage limit. To address this, we have planned an expansion in 2025.

Table indicating sample received and stored:

Specimen Type	No. of Samples Received	Aliquots/Samples Stored	No. of Samples Received	Aliquots/Samples Stored	Total
	Karonga	Karonga	Lilongwe	Lilongwe	
Plasma & Cell pellets	5,978	11,956	4,252	8,504	51,150
Serum	79,97	38,949	6,132	29,910	68,859
DBS	569	569	904	904	1,473
Fresh Stool	35	70	159	318	388
Fresh Urine	982	2,946	632	1,896	4,842
Saliva	1,018	2036	1,635	3,270	5,306
Hair	160	160	1,037	1,037	1,197
Breast Milk	431	1,293	611	1,833	3,126
Placenta Tissue*	238	238	584	584	1,666
Swabs**	672	1,344	1,232	2,464	15,558
Total	18,080	59,561	17,178	50,720	153,565

*Placental tissue: Formalin and RNA protect. **Swabs: Throat, Nasal, Vaginal, Skin, Placenta and Rectal swab

C. INFRASTRUCTURE & TECHNICAL OPERATIONS REPORT 2024

In this section of the MEIRU annual report, we present an overview of our infrastructure initiatives and maintenance efforts throughout the year 2024. The focus on robust infrastructure supports our operational efficiency and service delivery allowing us to maintain high standards in our facilities and operations.

Office Buildings and Access Roads in Karonga

In Karonga, we manage a total of seven office buildings along with vital access roads that facilitate movement and operations. This year, we undertook significant renovations to the access roads, ensuring improved accessibility for staff and visitors alike. In addition, we conducted minor renovations on our office buildings to enhance the working environment for our team. These upgrades not only improve functionality but also contribute to a more pleasant workspace, which is essential for productivity and morale.

Vehicle and Equipment Operations

The efficiency of our operations heavily relies on the vehicles and equipment at our disposal. Currently, our fleet comprises 13 vehicles and 75 motorcycles, alongside two generators and various laboratory equipment. Regular maintenance of these vehicles is critical to ensure they are roadworthy and can effectively serve our operational needs. To maintain a continuous power supply critical for laboratory activities, our generators are serviced by authorized dealers, ensuring that our lab freezers remain operational and capable of preserving blood samples without interruption. This consistent attention to vehicle and equipment upkeep is fundamental in maintaining our service reliability and operational capability.

Staff Housing Maintenance

Providing suitable housing for our staff is a priority for MEIRU, which directly impacts employee satisfaction and retention. Over the past year, we have completed comprehensive maintenance and repairs on several staff houses: six on the main campus, six at Hillcrest, 15 at BMH, and nine at Karonga boma. These efforts are aimed at creating a comfortable living environment for staff, which is essential for their well-being and productivity. Well-maintained housing not only reflects our commitment to our personnel but also supports their overall performance

Office Facilities in Lilongwe

In Lilongwe, we continue to ensure that our facilities are in optimal condition to support our operations. We maintain one office block at CHSU and 12 prefabricated offices at the Area 25 clinic. Regular maintenance of these facilities is vital to ensure they meet our operational needs and provide an efficient working environment. The upkeep of these offices underscores our commitment to maintaining professional standards and facilitating effective operations which are crucial for achieving our goals.

In conclusion, the investment in infrastructure maintenance and development across all MEIRU locations is fundamental to our commitment to excellence. By ensuring that our facilities, equipment, and staff housing are well-maintained, we are better positioned to deliver quality services and foster a productive working environment.

KEY COLLABORATING INSTITUTIONS IN 2024

Kamuzu University of Health Sciences, Malawi

Malawi-Liverpool-Wellcome Clinical Research Programme, Malawi

Malawi Ministry of Health and Population, Malawi

University of Glasgow, UK

London School of Hygiene and Tropical Medicine, UK

University of Edinburgh, UK

University of Bristol, UK

University of Liverpool, UK

FINANCIAL REPORT

SIGNIFICANT ACCOUNTING POLICIES

For the year ended 31 July 2024

1 Receipts

Grant income relates to funds received from different donors and is recognized on receipt. Timing of grant income is governed by the individual grant contract terms and conditions and can be received in advance or in arrears.

Miscellaneous income includes bank interest, house rental income, sale of assets and sundry other income. This income is also recorded on receipt and is allocated to reduce net Core organizational costs.

2 Payments

Payments reported in the financial statements are derived from supplier invoices, payment vouchers and cashbooks.

3 Exchange Gains and Losses

Grant Income is received in Sterling, Euro or US Dollars and stated in Kwacha in the accounts initially at the official bank rate for the month of receipt and held in those foreign currency accounts until sold for Kwacha at a later date through a competitive bank auction. The Kwacha receipts from auction results in a realised exchange gain or loss which produced a significant gain in 2023-24 due mainly to the devaluation of the Kwacha in November 2023. The remaining currency balances are calculated in Kwacha at the year-end official bank rate, which results in an unrealised gain or loss

4 Internal charges and recoveries

All central support expenditure for the scientific work of MEIRU is initially charged to Core costs. Operational projects however benefit from those central support costs, and the approved share payable by these projects in their budgets is charged to them through an internal journal, crediting Core costs as a recovery. Total internal charges and recoveries therefore offset each other in the Income and Expenditure Statement.

5 Surplus

The reported surplus for the year to 31st July 2024 represents grant and sundry income received less total expenditure on grant funded projects. Any current grants deficits at 31st July 2023 will be financed by grant income over the lifetime of the grant. Current grants surpluses result from receipts in advance in accordance with grant contracts.

6 Depreciation of Asset Purchased

Laboratory & Office equipment, Vehicles and other fixed assets are expensed by 100% depreciation

in the period of purchase because they are mainly financed through grants, which are accounted for on a receipt basis. A comprehensive fixed assets register is maintained for all items of plant and equipment held by the study.

7 Inventory

Inventories include fuel, field & medical supplies, vehicle parts and office supplies. Inventories are expensed in the financial statements through the cost of issues to projects and to core costs.

8 Receivables:

These include staff advances, supplier payments in advance and sundry other receivables.

9 Payables:

Expenditure is recorded on an accrual basis. Payables include supplier invoices, staff benefit provisions and tax due to MRA.

10 Cash and cash equivalents:

Cash and cash equivalents comprise cash on hand and at the bank. These are initially and subsequently recorded at fair value. Foreign currency bank balances on 31st July 2024 are stated in Kwacha at the official bank rates at that date.

INCOME AND EXPENDITURE STATEMENT FOR THE YEAR ENDING 31ST JULY 2024			
<i>In Malawi Kwacha</i>			
		31st July 2024	31st July 2023
INCOME			
Grant Income from Donors		4,742,520,404	3,050,674,289
Miscellaneous Income		104,942,666	53,585,859
Total Income		4,847,463,070	3,104,260,148
EXPENDITURE			
Staff costs		2,414,328,720	2,033,580,749
Operational costs			
Laboratory and field supplies		308,167,932	327,646,179
Workshop and Key Informant costs		48,319,800	26,394,050
Grant Sub-Contract expenditure		-	80,000,000
Study ethics approval fees		565,383	15,907,700
		357,053,115	449,947,930
Support Costs			
Printing & Stationery		80,726,302	101,810,251
Communications and IT support		104,485,945	105,914,386
Utilities		84,710,701	50,285,838
Guesthouse supplies		5,083,054	5,316,101
Insurance		32,540,129	25,557,452
Legal and Professional Fees		194,698,477	152,703,389
Shipping and clearing		26,484,685	16,219,189
Staff travel		99,364,974	98,651,292
Vehicle/Generator running costs		264,151,955	218,712,858
Maintenance of buildings and equipment		64,042,572	77,859,271
Minor Equipment		5,017,287	8,029,284
Sundry expenses		14,623,686	8,930,723
Bank charges		8,506,391	8,859,354
Depreciation of Assets purchased for grants		57,188,578	70,304,633
Depreciation of Assets - core costs		16,520,610	16,829,880
Exchange Losses (Gains)		(187,999,535)	(30,217,184)
Internal charges/recoveries			
		870,145,810	935,766,718
Total expenditure		3,641,527,645	3,419,295,397
Surplus (Deficit) for the year		1,205,935,425	(315,035,250)

BALANCE SHEET AS AT 31ST JULY 2024*In Malawi Kwacha*

Assets	31st July 2024	31st July 2023
Non-Current assets		
Laboratory & Office equipment, Vehicles and other fixed assets	100	100
Current Assets		
Cash and Bank	1,391,458,987	281,903,563
Receivables	80,391,516	89,043,906
Inventory	116,144,105	113,545,235
Total Current Assets	1,587,994,607	484,492,703
Total Assets	1,587,994,707	484,492,803
Current Liabilities		
Payables and accruals	125,536,212	227,969,732
Total assets less liabilities	1,462,458,495	256,523,071
Represented by:		
Accumulated Funds	1,462,458,496	256,523,071