

Job Title: Programmer / Database Manager

Grade: B

**Accountable to:** Director

**Supervises:** Relevant data staff

**Liaises with:** Data management support in Glasgow and Edinburgh Universities

Data Documentalist and Data Scientists

MEIRU data team

MEIRU Medical, scientific, laboratory and data office staff.

MEIRU administration and technical support staff.

#### **QUALIFICATIONS**

Bachelor's degree in Computer Science, Information Technology, or a related field from an internationally recognized university or the equivalent combination of education, training, and experience from which comparable skills can be acquired.

Proven experience as a Programmer, Database Manager, or similar role.

Visual basic for applications and MS Access development experience and a strong understanding of both programming and database management are essential for this role.

#### Desirable qualifications

MSc in relevant area (eg Database design or IT related) or equivalent experience

#### MAIN OBJECTIVE OF THE POSITION

To be responsible for the programming and database management on MEIRU studies.

#### **MAIN DUTIES**

Perform the following activities in conjunction with the Data Management team:

#### Study design

- Working together with MEIRU researchers to understand purpose of data collection tools in each study.
- Develop data management plan including data flow and entity relationship diagrams



#### Data collection

- Development of pre-printed forms of individuals to be identified in the field.
- Programming, using frameworks including ODK and RedCap, for electronic data capture and transferring these data into project databases.
- Programming of ongoing and new studies (in Visual Basic for Applications in MS Access and C#), including writing of data entry programs.

#### Data processing and storage in database systems

- Writing data checks and solving data queries.
- Working together with data office staff in Malawi, to monitor of backlogs, set targets for data staff and check that verifications and data integrity checks have been run.
- To ensure corrections are made to the data when required.
- To liaise with project scientists, collaborators and other members of the data team to ensure data integrity and security, plus maintain consistency with existing data.
- Ensuring that current suite of programs are maintained.
- Integration of new data into the overall project databases, and ensuring continuity with past data and data management systems.
- Ensure external data is received and integrated into databases
- Ensure databases only contain appropriate tables, including. Archiving
- Oversee corrections made to database tables

#### Preparation of analysis ready datasets

- Work with MEIRU data scientist in preparation of data extracts for analysis.
- Programming of data extraction routines.

### Data Cataloguing and sharing

 Work with MEIRU data documentalist in ensuring data appropriately catalogued and shareable.

## Overarching

• Contribute to programming activities through liaising with senior programmers, working with junior programmers or carrying out activity (depending on skills/experience).



## Additional

- Participation in MEIRU senior staff site cover rota if required.
- Other duties as requested by MEIRU Director.



Please note that this job description is not exhaustive and duties may vary from time to time in the light of changing circumstances, after consultation with you.

#### KNOWLEDGE AND SKILLS

#### Essential

- Visual basic for applications and MS Access development experience
- Excellent spoken and written English
- Demonstrated ability to manage complex challenges
- Excellent problem-solving skills and attention to detail, accuracy and timeliness
- Good computing and communications technology skills
- Ability to summarize information and provide progress reports
- Able to maintain confidentiality and work to high ethical standards
- Ability to learn new technologies as required
- Knowledge of data security best practices.

#### Desirable

- In-depth knowledge of database management systems (DBMS) such as MySQL, PostgreSQL, or SQL Server.
- Strong proficiency in programming languages such as Java (Android), Kotlin, Python, C#, HPH or JavaScript.
- Experience with database design, implementation, and maintenance.
- Familiarity with data analysis and reporting tools.
- Ability to work independently and as part of a team.
- Experience conducting and/or managing health/research projects
- Experience in conduct and analysis of qualitative and/or quantitative research
- Demonstrated ability to publish high quality research
- Experience in stakeholder engagement activities.