Burden, Spectrum and Aetiology of Type 2 Diabetes in sub-Saharan Africa

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AFRICAN PARTNERSHIP FOR CHRONIC DISEASE RESEARCH GROUP (APCDR)
A. 9 Countries in Sub-Saharan Africa with 11 Centres:
• Cameroon
• Gambia
• Guinea
• Ghana
• Malawi
• Nigeria: 2 Centres
• South Africa: 2 Centres
• Tanzania
• Uganda and

B. 4 Institutions from the North: UK (LSHTM, WTSI/UC, UO), USA (NIH)
T2DM on the rise in Sub-Saharan Africa (SSA)
From 12 million in 2010 to 24 million in 2030
People of African decent appear to have greater risk for T2DM and complications
Burden, Spectrum and Aetiology of Type 2 Diabetes in SSA: Background

- Genomic capacity for NCD research poorly developed in SSA
- Relevance of recent genomic findings in T2DM to populations in SSA not known
- Aetiological and Genetic Factors of T2DM and complications remain to be studied in a systematic manner across SSA
- Limitation: a well phenotyped T2DM cohort for large-scale genomic study
1. Assess the burden and spectrum of T2D in SSA.
2. Determine the Environmental and Genetic Determinants of T2D
3. Assess the Occurrence of microvascular complications of T2D (MVCD)
4. Study the environmental and genetic determinants of MVCD
Burden, Spectrum and Aetiology of Type 2 Diabetes in SSA: CC Themes

Panel 2. Schematic of the scientific objectives and cross-cutting themes

CCT1: Networking and management
CCT2: Epidemiological design and statistical analysis
CCT3: Bioinformatics
CCT4: Genomics and statistical genetics
CCT5: Capacity building
CCT6: Bioethics

SO1: Assess burden and spectrum of T2D in adults
SO2: Investigate environmental and genetic determinants of T2D
SO3: Characterise prevalence and distribution of microvascular complications
SO4: Study environmental and genetic determinants of microvascular complications
1. 12,000 cases of T2DM:  
   12,000 Control Subjects  
   • Case-series  
   • Population based cross-sectional studies  

2. Genetic Studies:  
   • Sequencing of known T2DM regions  
   • Genome-wide genotyping arrays and  
   • Whole exome/genome sequencing
Panel 16. Schematic of the governance structure and management structure of the proposed research network

Research programme governance

Governance Committee
Reviews policies and procedures and monitors the use of the research resources

Operational management

Management Committee
Oversees the administration, communication, and technology behind the programme

Scientific strategy

Scientific Steering Committee
Provides expert advice to guide scientific research and build research capacity

Data Access Committee
Oversees external data sharing and data access

Programme Resource
Electronic repository of data, research resources and research training tools
Thank You