

# THE AAS IMPACT

## DELTA Africa: NCDs higher in people living with HIV

### MUII plus at a glance

The Developing Excellence, Leadership and Training in Science in Africa (DELTA Africa), a programme of The African Academy of Sciences, supports Makerere University/ UVRI Centre of Excellence in Infection and Immunity Research and Training (MUII plus), which aims to help East Africans pursue research careers in Infection and Immunity, focussing on endemic infections of the region. The programme works with regional research centres and leading international Universities to ensure excellence in collaborative training activities including short courses, research attachments and mentored research fellowships.



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### Background

An estimated 24.7 million people in Africa are living with HIV, accounting for 71% of the global total. Chronic inflammation and immune dysfunction is the hallmark of HIV infection, which claimed up to 420,000 deaths and 790,000 new infections in East and Southern Africa; the worlds' most affected regions. In Uganda, the five major causes of death during combination antiretroviral therapy (cART) include Tuberculosis (24%), Cryptococcal meningitis (16%), Kaposi's Sarcoma (10%), toxicity (9%), and HIV-related anemia (7%). With more than a decade on cART and chronic HIV-associated inflammation, there is increased risk of non-communicable diseases among adults aging with HIV.

Accelerated reduction of HIV-associated inflammation, immune activation and immune aging would reduce risk of co-infections and non-AIDS illnesses including cardiovascular diseases, malignancies, and target end-organ damage among adults on life-long cART; improves health of HIV-infected adults.

This reduces hospitalisation and work absenteeism due to HIV-associated illnesses. In Uganda 1.2 million HIV-infected adults who are 15-64 years old, will be more productive and contribute to the countries' economic growth. These clinical and economic benefits would potentially be scaled up to other HIV treatment programs to improve the lives of up to 20 million individuals living with HIV.

### Description of study

People with HIV are living much longer than in the past, they tend to develop hypertension and heart conditions, among other age-related diseases, at a younger age on average than those who are HIV-negative.

These observations were made from a 12-year-old clinical study of 559 HIV-infected individuals, initiated in 2004, to offer and monitor HIV treatment in a research setting. In this group of patients, MUII plus researchers demonstrated that antiretroviral drugs improve the survival rates of people with HIV – 492 people were still living at the end of the study period – but that survivors face other medical challenges at a higher rate than the general population.

### Anticipated outcomes

- Further work is ongoing to better understand specific biological pathways that remain affected, in order to inform targeted interventions to support HIV-infected adults to have complete immune recovery.
- Understanding the biological correlates of accelerated immune aging and increased risk of non-AIDS diseases of aging including cardiovascular diseases, malignancies, neurocognitive disorders, cataracts, and end-organ damage, will improve survival and quality of life of adults aging with HIV and cART globally.