

## **Cause-Specific Mortality in Southern Uganda Using Verbal Autopsy 1999-2019**

**Doreen Nabukalu<sup>1,2</sup>, Júlia Almeida Calazans<sup>3</sup>, Jim Todd<sup>1</sup>**

<sup>1</sup> London School of Hygiene and Tropical Medicine  
London, United Kingdom

[Doreen.Nabukalu@lshtm.ac.uk](mailto:Doreen.Nabukalu@lshtm.ac.uk); [jalmeida@ced.uab.es](mailto:jalmeida@ced.uab.es)

<sup>2</sup> Rakai Health Sciences Program  
Rakai, Uganda

[Jim.Todd@lshtm.ac.uk](mailto:Jim.Todd@lshtm.ac.uk)

### **Extended Abstract**

There are scant data on the causes of adult deaths in sub-Saharan Africa. We estimated the level and trends in adult mortality, overall and by different causes, in rural Rakai, Uganda by age, sex and HIV status.

Mortality information by cause, sex, HIV status, and age were recorded in the Rakai Community Cohort Study (RCCS) using verbal autopsy interviews. RCCS is a population based open cohort in an HIV endemic region in Southern Central Uganda. We estimated the life table probabilities of dying between ages 15 and 60 and the average number of years lived in adulthood. Using demographic decomposition methods, we estimated the contribution of each cause of death to adult mortality based on the average number of years lived in adulthood.

Between 1999 and 2019, 63,082 adults (15-60 years) were censused with 1670 deaths registered. Of these, 1656 (99.2%) had completed cause of death data from verbal autopsy. The crude adult death rate was 5.6 (95% CI:5.3-5.9) per 1000 person-years of observation (pyo). Overall, the crude death rate decreased from 11.4 (95% CI: 10.6-12.3) to 3.3 (95% CI:2.9-3.7) per 1000 pyo between 1999-2004 and 2015-2019. For HIV-positive individuals, mortality rates declined from 60.5 (95% CI:52.9-69.2) in 1999-2004 to 7.3(95% CI:5.0-10.7) per 1000 pyo in 2015-2019. The most pronounced mortality declines in HIV positive individuals was between ages 25-34 and 35-44 years. The average number of years lived in adulthood increased in HIV-positive individuals and decreased in HIV-negative individuals between 2000 and 2019. Communicable diseases primarily HIV and Malaria had the biggest decreases, which improved the average number of years lived by approximately an extra 12 years of life in females and 6 years in males. There were increases in the number of deaths due to non-communicable diseases and external causes, which reduced the average number of years lived in adulthood by 2 years and 1.56 years in females and males, respectively.

Mortality in people living with HIV has greatly reduced since the availability of antiretroviral therapy since 2004 in this region. By 2020, the predominant causes of death among females were non-communicable diseases with external causes of death dominating in males.