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Title: BUILDING TOWARDS SCALE-UP OF RHEUMATIC HEART DISEASE SERVICES IN UGANDA: THE ADUNU PROGRAM

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Background & Aims: Early detection of Rheumatic Heart Disease (RHD) through echocardiographic testing and Registry-based care for delivery of secondary antibiotic prophylaxis are proven approaches to RHD care. Unfortunately, there is paucity of data on national RHD programs for implementing these two evidence-based approaches at a population-based level. In response to the 2018 World Health Assembly call to prioritize RHD, ADUNU (Accelerating Delivery of rheUmatic heart disease preventive iNterventions in Uganda) was designed to test a real-world model for a district based RHD diagnosis and secondary prevention program that builds a foundation for future national action.

Methods: ADUNU is a non-randomized experiment, pre/post design, testing a strategy for implementing decentralized RHD preventive services in two districts in Northern Uganda: Amuru and Kitgum. ADUNU uses a district-based healthcare delivery model that deploys two core components: 1) population-based echocardiographic testing for subclinical RHD through routine health center screening, community and school testing outreaches and reactive testing, and 2) providing secondary prevention for diagnosed individuals. ADUNU program was co-designed with the Uganda Ministry of Health, to be fully implemented by the district health office (DHO) within the existing public health system under the guidance of Uganda Heart Institute. Further refining of the program followed various stakeholder engagements in the district. The ADUNU study team provides technical and logistical support for implementation and impact evaluation which includes a range of quantitative and qualitative data collection from program documents and registry, provider and registrant surveys, participant and provider interviews, and direct observation.

Results: We shall utilize the RE-AIM framework to assess program Reach, Effectiveness, Adoption, Implementation, and Maintenance. ADUNU seeks to reach 50% of the population living with RHD and to effectively enrol 90% of those detected into the registry, retain 90% of those enrolled in care and to ensure 90% adherence for those retained in care. In brief, ADUNU aims to shift the RHD cascade of care from 0/0/0/0 (status quo) to 25/90/90/90 over the two-year period in the demonstration district (Kitgum) and to 50/90/90/90 over the four-year period in the replication district (Amuru). Adoption will be assessed by determining the proportion of health facilities and providers adopting evidence-based practice with a target 90% adoption. Implementation will be assessed by determining the degree of provider fidelity to RHD-related clinical guidelines and protocols while maintenance will be determined by the proportion of health facilities and providers implementing ADUNU as designed (target >95% of adopters), and sustained retention and adherence levels among enrolees at 24 months of project roll-out. The determinants of adoption, implementation and maintenance will be determined. ADUNU was officially launched in April 2023 at a stakeholder event organized by the DHO and Kitgum and attended by district leaders at various levels. Following the launch, we trained health workers, starting with the district hospital (charged with disease confirmation and enrollment in care), and then step wedged training of the 10 primary health care centers (three completed). We deployed echo machines and tablets at these centers, and over 200 participants have been screened.

Conclusions: We anticipate that ADUNU will transform a centralized, passive care delivery model to a decentralized, active, and scalable model that will improve patient outcomes and strengthen healthcare in Uganda. This research is expected to give a thorough understanding of the factors leading to success or failure of secondary prevention in a low-resource setting. Lessons from the implementation of the ADUNU Program will help shape the National RHD Strategy and refine programs that can be scaled country-wide, creating best-practices for sub-Saharan Africa and other regions where RHD remains endemic.