



Rakai Health Sciences Program

Improved Health Through High Impact Research

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www.rhsp.org

Content

- Who we are
- Our core values
- Message from the ED
- Research studies
- RHSP Programs
- Administration
- People and Excellence
- RHSP Events
- 2025 Publications



Acronym

cSTI	curable Sexually Transmitted Infections	WHO	World Health Organization
RHSP	Rakai Health Sciences Program	REDCap	Research Electronic Data Capture
CROI	Conference on Retroviruses and Opportunistic Infections	SeroMARV	Seroprevalence of Marburg Virus Infection
INSTEP	Integrated Female Sexually Transmitted Infection Testing	ISO	International Organization for Standardization
HTS	HIV Testing Services	QMS	Quality Management System
PEPFAR	The United States President's Emergency Plan for AIDS Relief	ART	antiretroviral therapy
RCCS	Rakai Community Cohort Study	VICINITY	Epidemiology and Impact of the HIV, NCD and Urbanization Syndemic in Africa
GPS	Global Positioning System	VL	viral load
KCCR	Kumasi Centre for Collaborative Research in Tropical Medicine	LEEP	Loop Electrosurgical Excision Procedure



Who we are

Rakai Health Sciences Program (RHSP) is a Uganda-based research organization established in 1987, collaborating with other global partners that include Makerere University, Johns Hopkins University, The City University of New York, Columbia University, University of Michigan, Western University and the Uganda Virus Research Institute, among others.

Our mission is to be the lead at improving population health through generating and translating knowledge to inform policy and service delivery.

RHSP has evolved from a primary focus on HIV epidemiology and prevention to a broad, multidisciplinary research program. Our work spans HIV prevention, treatment and care, sexual and reproductive health, non-communicable diseases, mental health, and health systems research. This portfolio is organized around long-standing population-based cohorts, clinical and implementation research, and community centered service delivery models that generate evidence relevant to both policy and practice.

This research is supported by strong institutional platforms, including state-of-the-art laboratories, robust data management and biostatistics systems, clinical research infrastructure, and the Rakai Community Cohort Study.

Together, these platforms enable rigorous data collection, analysis and translation of evidence into scalable health interventions.

Capacity strengthening is central to RHSP's mandate. Through structured training, mentorship, and collaboration with national and international academic institutions, RHSP has contributed to the development of scientists, clinicians, data professionals, and public health leaders at undergraduate, postgraduate and postdoctoral levels.

Community engagement also remains a cornerstone of our approach. RHSP works closely with communities, local leaders, health providers and policy makers to ensure that research is ethical, responsive and aligned with local health priorities. This engagement strengthens trust, enhances research uptake and ensures that our work delivers meaningful and lasting impact.

Our Core Values

At the heart of Rakai Health Sciences Program (RHSP) is a shared belief system shaped by the people who live our work every day. These core values were thoughtfully developed by our team to reflect not only what we do, but how and why we do it. They guide our research, service delivery, partnerships, and engagement with communities, ensuring that our work remains ethical, collaborative, innovative, and deeply responsive to the people we serve.

- **Teamwork:** Leveraging the unique strengths of individuals and partners to deliver our mission.
- **Innovation:** Creativity to add value in health research and service delivery.
- **People-Centeredness:** Responsiveness to community health needs.
- **Integrity:** Accountability, honesty and strong moral principles.
- **Equitable collaboration:** Working together with partners in research, service delivery, and training.



**Rakai Health
Sciences Program**
Improved Health Through High Impact Research

Message from the Executive Director

The year 2025 was both challenging and defining. In the face of global funding constraints and a growing landscape of emerging and re-emerging public health threats, we remained steadfast on our mission. Guided by our commitment to science and the communities we serve, we continued to push forward—adapting, innovating and delivering impact where it matters most.

Despite these challenges, 2025 was also a year of steady progress and strategic growth for the Rakai Health Sciences Program (RHSP). Our work continued to demonstrate that rigorous science, when grounded in community partnership, can drive meaningful and lasting change.

At the core of our efforts was our HIV research, which remains central to RHSP's legacy and global contribution. Findings from the Rakai Community Cohort Study (RCCS) provided compelling evidence that expanded access to HIV treatment has significantly reduced orphanhood in Uganda. This milestone reflects decades of trusted community engagement and longitudinal research, translating into outcomes that impact on families and inform both national and global policy.

Building on this momentum, RHSP scientists shared critical insights on the global stage at the Conference on Retroviruses and Opportunistic Infections (CROI) 2025. Our teams presented findings on linkage to care, HIV drug resistance in the era of dolutegravir and inclusive prevention strategies for high-risk populations, contributing to more effective and equitable approaches to epidemic control.

As the year progressed, we expanded our focus to address emerging and evolving public health priorities. Through the SeroMAV study, RHSP advanced epidemic preparedness by strengthening serosurveillance systems for Marburg virus and other priority pathogens. This work enhanced Uganda's capacity for early detection and rapid response, underscoring the critical role of research in safeguarding public health.



Dr. Godfrey Kigozi
Executive Director

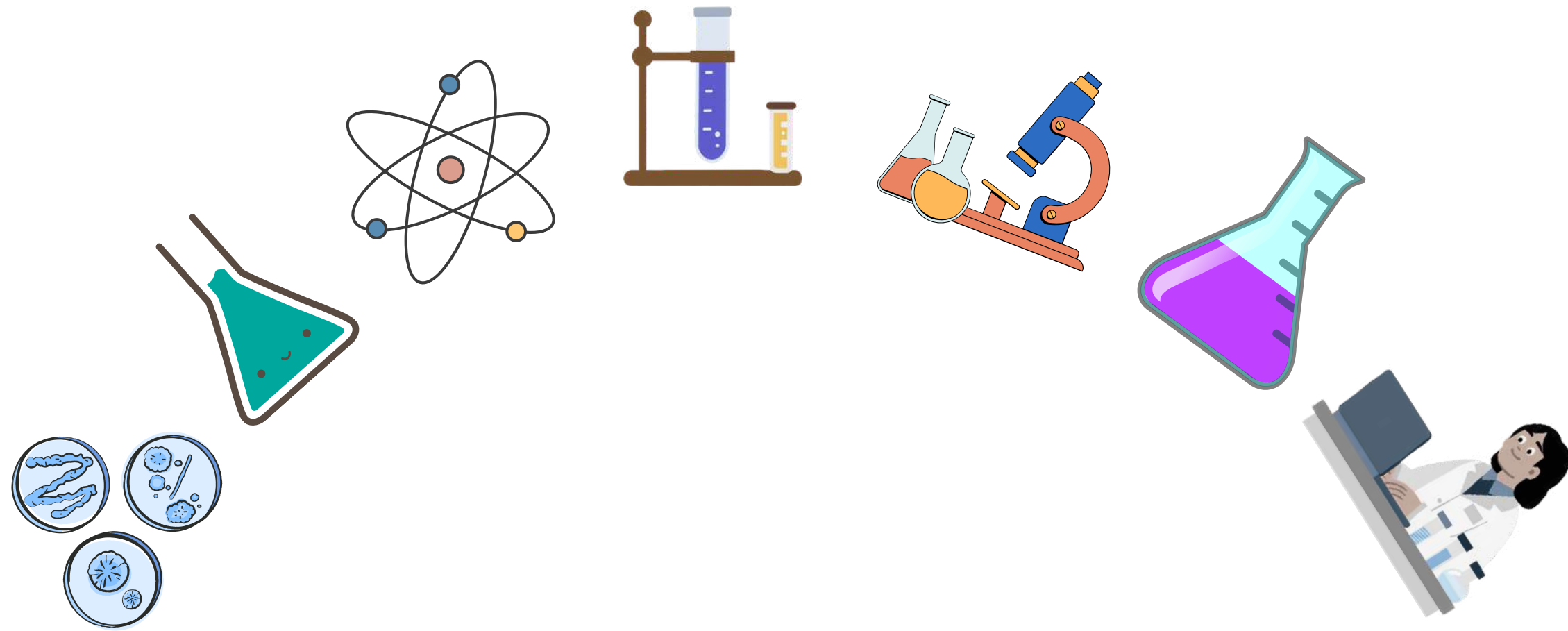


Recognizing the growing intersection between climate and health, RHSP further broadened its research portfolio through the Climate Shock Survey, implemented in collaboration with the University of Michigan. This initiative is generating important insights into how rural households experience and adapt to extreme weather events, helping to inform more resilient, community-centered health strategies.

In parallel, we launched a study that Integrates Female Sexually Transmitted Infection Testing among females with HIV epidemic control through PREP (INSTEP study), reflecting our continued commitment to innovative, integrated approaches to prevention and health systems strengthening. By generating actionable evidence, this study is informing scalable interventions designed to improve health outcomes across diverse populations.

Across all our programs, we placed strong emphasis on health systems integration, linking surveillance, laboratory science, and community engagement to ensure that research findings translate into meaningful public health action. This integrated approach remains essential to delivering impact that is both sustainable and responsive to community needs.

Together, these achievements reflect not only what we do, but who we are, a resilient institution driven by purpose, strengthened by partnerships, and committed to improving health through high-impact research. As we look ahead, we remain dedicated to advancing science that responds to real-world challenges and delivers measurable impact for communities in Uganda and beyond.



RESEARCH

Quantitative Measurement and Correlates of the Latent HIV Reservoir in Virally Suppressed Ugandans – also known as ‘the HIV Latent reservoir study.’

Despite prolonged antiretroviral therapy (ART), HIV-1 can persist as transcriptionally inactive proviruses in resting memory CD4+T cells. This latent reservoir has a long half-life and is believed to be the largest impediment to a cure by ART alone. The latent reservoir may be established when activated CD4+ T cells become infected and subsequently revert to a resting memory state. A major approach to eradicating HIV-1 involves reversing latency in patients on ART.

Most HIV-infected individuals currently live in sub-Saharan Africa where fully suppressive ART is expanding rapidly. Due to this expansion, a large number of Africans will be eligible candidates for cure treatment when one comes available. However, strategies needed to establish a functional cure may differ in African populations due to differences in endemic infectious disease load and in cellular immune activation among Africans as compared to Western populations. To date, there have been no systematic studies to quantify the latent reservoir in HIV-infected Africans.

This is a longitudinal, descriptive study to measure the size of the latent HIV reservoir in virally suppressed HIV infected individuals residing in Uganda and to examine the immunological and virologic correlates of the latent reservoir. The study will draw its participants from a National Institutes of Health (NIH) International Center for Excellence in Research (ICER) site, located at the Rakai Health Sciences Program (RHSP) in rural southwestern Uganda.

A total of 90 ART suppressed individuals were enrolled over 10 years ago with study participation requiring a visit with a fingerstick hemoglobin screening and a blood draw, once a year for a period of 20 years.

Plasma and cells from the blood are separated and processed for quantitative viral latency, viral clonality analysis, circulating cytokine and chemokine analysis, co-culture, and flow cytometric and serologic assays for selected immunological parameters.



Viral latency results and clonality measurements will be compared within each individual for changes in the reservoir size and make-up that might occur over 20 years of continual viral suppression to calculate the $T_{1/2}$ or decay rate of the total latent reservoir and its component proviral populations. Samples collected from individuals with known infection dates will be used to estimate the formation curve of the latent reservoir. Overall reservoir size and decay and formation rates will be interpreted in relation to values previously collected from HIV-infected individuals in the United States.

The study is in its tenth round with participants to be called in for the year 10 review starting 2026. This round has had a delay in implementation due to changes related to US funding mechanisms. We have successfully run IPDA assays on the bulk of the cohort (over 250 time points), and preliminary results reveal diverse total reservoir size across individuals.

Generally, overtime, there is a trend towards reduced total, intact and defective reservoir size irrespective of gender, though overall, men have larger total reservoir size, higher intact and defective proviral burden.

More specifically, the overall total reservoir ranges from 65.8 - 5924.8 copies/mil **CD4s** irrespective of gender while the total reservoir size in females ranged from 82.3 - 5924.8, compared to 65.8 - 5546.8 copies /mil **CD4 T cells**.

Regarding intact proviral burden, the overall intact reservoir ranges from 0 - 800.6 copies/mil CD4s irrespective of gender with 0 - 800.6 copies / mil CD4 T cells in females versus 8.1 - 741.7 copies/mil CD4 T cells in males. The overall total defective reservoir ranged from 34.1 - 5135.6 copies/ mil CD4 T cells with a range of 82.3 - 5135.6 copies / CD4 T cells in females versus 34.1 - 5073.4 copies / mil CD4 T cells in males. Generally, there is a higher variation in the reservoir parameters of females compared to males and a faster reservoir decay (slopes pending) i.e. females have a larger reservoir at enrolment, but this decreases longitudinally faster than that of males. More complete exploratory analysis of cross-sectional timepoints and individual longitudinal trends will be done when pending samples are tested.

The VICINITY Study: Understanding Health in a Rapidly Urbanizing Uganda

As Uganda continues to urbanize at an unprecedented pace, a new and complex health challenge is emerging, where HIV intersects with rising noncommunicable diseases (NCDs), reshaping the health landscape for thousands of people.

The Epidemiology and Impact of the HIV, Noncommunicable Diseases, and Urbanization Syndemic in Africa (VICINITY Study) is at the forefront of understanding this shift. Built on nearly three decades of data from the Rakai Community Cohort Study (RCCS), the study explores how urbanization, environmental exposures, and lifestyle changes are influencing the health of people living with and without HIV in Uganda. The urban lifestyle is thought to have a role in this.

A novel approach to a growing challenge

To better understand this evolving reality, the VICINITY study adopts an innovative rural to urban (R2U) cohort design. The study follows individuals as they migrate from rural Rakai communities to growing urban centers such as Masaka City and the Kampala Metropolitan Area. At the same time, it tracks rural to rural migrants and non-migrating individuals, creating a powerful comparison that reveals how different environments shape health outcomes over time.

This longitudinal approach allows researchers to go beyond snapshots of health, capturing real life transitions and the cumulative effects of migration, access to healthcare, and changing living conditions.

Evidence generation in action

What sets the VICINITY study apart is its ability to combine scale with innovation. In the 5 years of the study, 7,000 participants have been enrolled, contributing to one of the most comprehensive datasets on HIV and NCDs in the region.

Participants underwent advanced health assessments, including lung function testing (spirometry) and heart imaging (echocardiography), with 2,847 individuals receiving detailed cardiac evaluations. Beyond clinical data, the study integrates environmental and behavioral insights to build a more complete picture of health.

For over 1,200 participants, researcher teams have conducted extensive air quality monitoring—measuring exposure to fine particulate matter (PM2.5), carbon monoxide, and black carbon across both rural and urban settings. These data are further enriched with 24-hour blood pressure monitoring and GPS-based mobility tracking, revealing how daily movement patterns and lived environments contribute to long-term health risks.



A spirometry session.

By combining these approaches, VICINITY captures something rarely seen in research: how people live, move, and interact with their environments—and how these realities shape their health.

The urgency of this work cannot be overstated. Thanks to advances in HIV treatment, people are living longer, healthier lives. However, this progress has brought a new challenge—noncommunicable diseases are now becoming a leading cause of illness and death among people living with HIV.

Across sub-Saharan Africa, the burden of NCDs is projected to rise dramatically in the coming decades. The VICINITY study directly responds to this growing concern, generating evidence that is critical for designing prevention strategies, strengthening health systems, and guiding policy in an increasingly urban world.

Publications and scholarly Outputs

By addressing this evolving syndemic of HIV and NCDs, the study positions RHSP at the forefront of generating robust evidence to inform policy development, prevention strategies, and health system redesign. Even before the study's completion, several key research questions have been addressed resulting in peer-reviewed publications and other scholarly outputs, including:

- [Association between HIV Infection and Arterial Stiffness: A Population-Based Cross-Sectional Study from Rakai, South-Western Uganda — Batte, et al. \(Elsevier B.V., 2026\).](#)
- [Characterizing Ambient, Personal, and Occupational Air Pollution and Lung Function Associations in South-Central Uganda — Doctoral Dissertation, Johns Hopkins University \(2025\).](#)

The VICINITY Study represents more than a research initiative, it is a critical step toward understanding and addressing the future of health in Africa.

By uncovering how urbanization, environment, and chronic disease intersect with HIV, the study is helping to inform policies, improve care delivery, and anticipate the health needs of rapidly changing populations.

INSTEP trial: Addressing Silent STIs to Strengthen HIV Prevention Among African Women

Sexually Transmitted Infections (STIs) are a risk factor for HIV acquisition and are used as a self-screening tool prior to PrEP enrollment in Uganda but unfortunately, over 85-90% of STI episodes may be symptomless. STI laboratory diagnosis is costly and not widely available in Africa, and this implies that a significant number of persons with symptomless STIs, especially vulnerable females may not perceive themselves to be at risk/PrEP eligible.

Our preliminary observational data suggests a high burden of undiagnosed curable Sexually Transmitted Infection (cSTIs) among African women at high risk for HIV and that adding curable Sexually Transmitted Infection diagnostic testing to existing PrEP eligibility screening efforts would nearly double the number of PrEP eligible women. Preliminary data also show women with cSTI symptoms are more likely to perceive themselves as being at high HIV risk, and that women diagnosed with cSTIs are more likely to use PrEP.

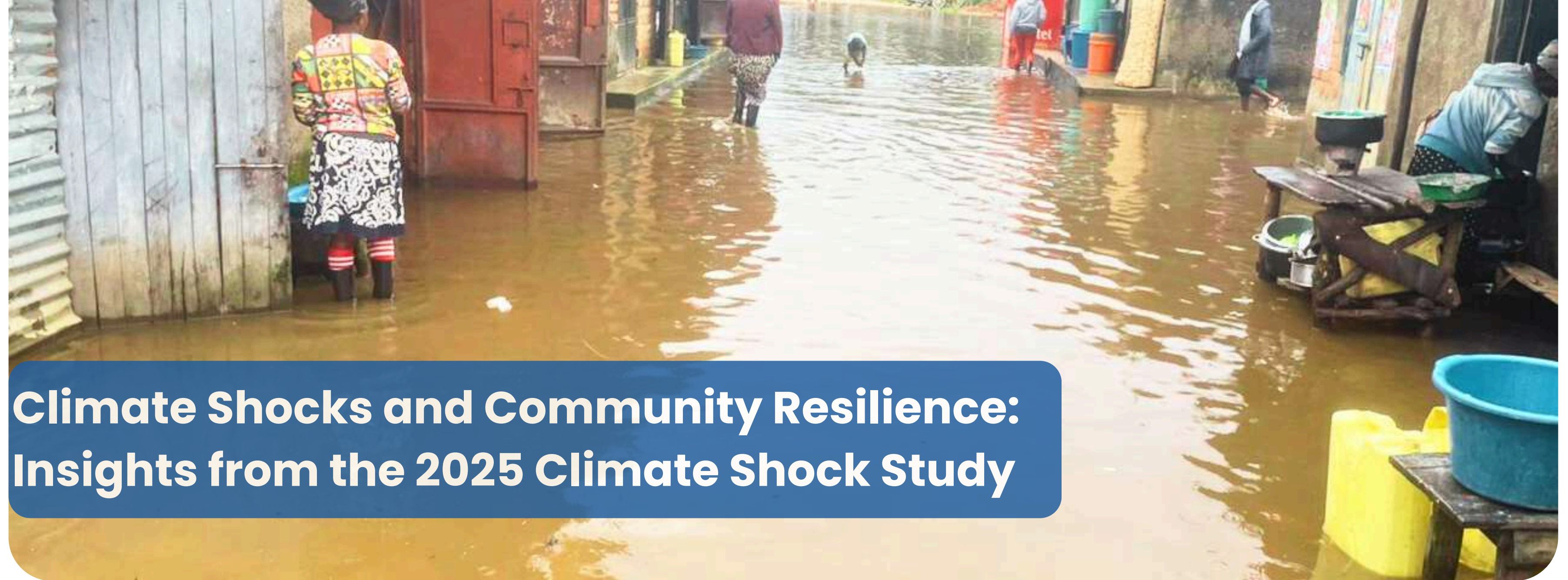
The Integrated Female Sexually Transmitted Infection Testing (INSTEP) study is a randomized trial assessing whether access to integrated curable STI (cSTI) testing will improve PrEP use (uptake and persistence) among women in Africa and seeks to provide compelling evidence on critical effectiveness, implementation, and modeled data to influence policy and programmatic decisions that will inform strategic delivery of high impact HIV prevention.



A RHSP staff conducting an information sharing session with participants during INSTEP trial activities.

Thus, INSTEP aims to individually randomize ~4,500 HIV negative enrolled females to the standard of care self-risk screening tools for PrEP eligibility (with syndromic STI management) versus self-risk screening plus cSTI diagnostic testing for chlamydia, gonorrhea, trichomonas, and syphilis to increase PrEP use among cis-gender African women aged 15 to 39 years in the RCCS cohort.

The study has so far enrolled over 700 eligible females. 68.2% of PrEP uptake followed administration of the standard of care self-risk screening tool alone, while cSTI resulted in 9.3% uptake, contrasted with 22.5% uptake following a combination of both. Qualitative assessments have also been done on an initial select number of females and we await further ongoing enrollments and follow up to determine PrEP persistence rates, STI burden and treatment preferences for both STI indexes and their partners.



Climate Shocks and Community Resilience: Insights from the 2025 Climate Shock Study

In 2025, the Rakai Health Sciences Program (RHSP), in collaboration with the University of Michigan, undertook the Climate Shock Study to generate critical evidence on how climate change is reshaping health, livelihoods and population dynamics in Rakai communities. Embedded within the Rakai Community Cohort Study (RCCS), this collaborative research brought together global scientific expertise and RHSP's long-standing community presence to examine climate change perceptions, compound climate shocks, vulnerabilities, and adaptive responses—particularly among agrarian and fishing populations facing heightened climate risk.

The study was designed to move beyond climate awareness to document lived experiences and measurable impacts.

It assessed how recurring shocks such as flooding influence disease patterns, access to healthcare services and household stability, while also exploring population mobility and migration trends linked to environmental stressors. By comparing impacts across different community strata within the RCCS, the study generated nuanced insights into how climate change affects communities unevenly, yet persistently.

A total of 400 households were successfully enrolled, drawn equally from agrarian and fishing communities. Household heads or adult representatives were recruited through informed consent at baseline and followed up quarterly over the study period.

The maintained strong retention across all four follow-up rounds, with participation remaining above 90 percent through the final quarter—an important achievement given the mobility and climate vulnerability of the study settings

Field implementation benefited significantly from the close collaboration between RHSP field teams, data teams, and University of Michigan investigators. Data collection was conducted using mobile platforms, with raw data regularly synchronized and securely stored on **ODK Central**, allowing authorized access for both institutions.

This approach supported real-time monitoring, high data quality, and seamless coordination from baseline through endline. Overall, the study achieved an average response rate of 95 percent across all survey rounds.

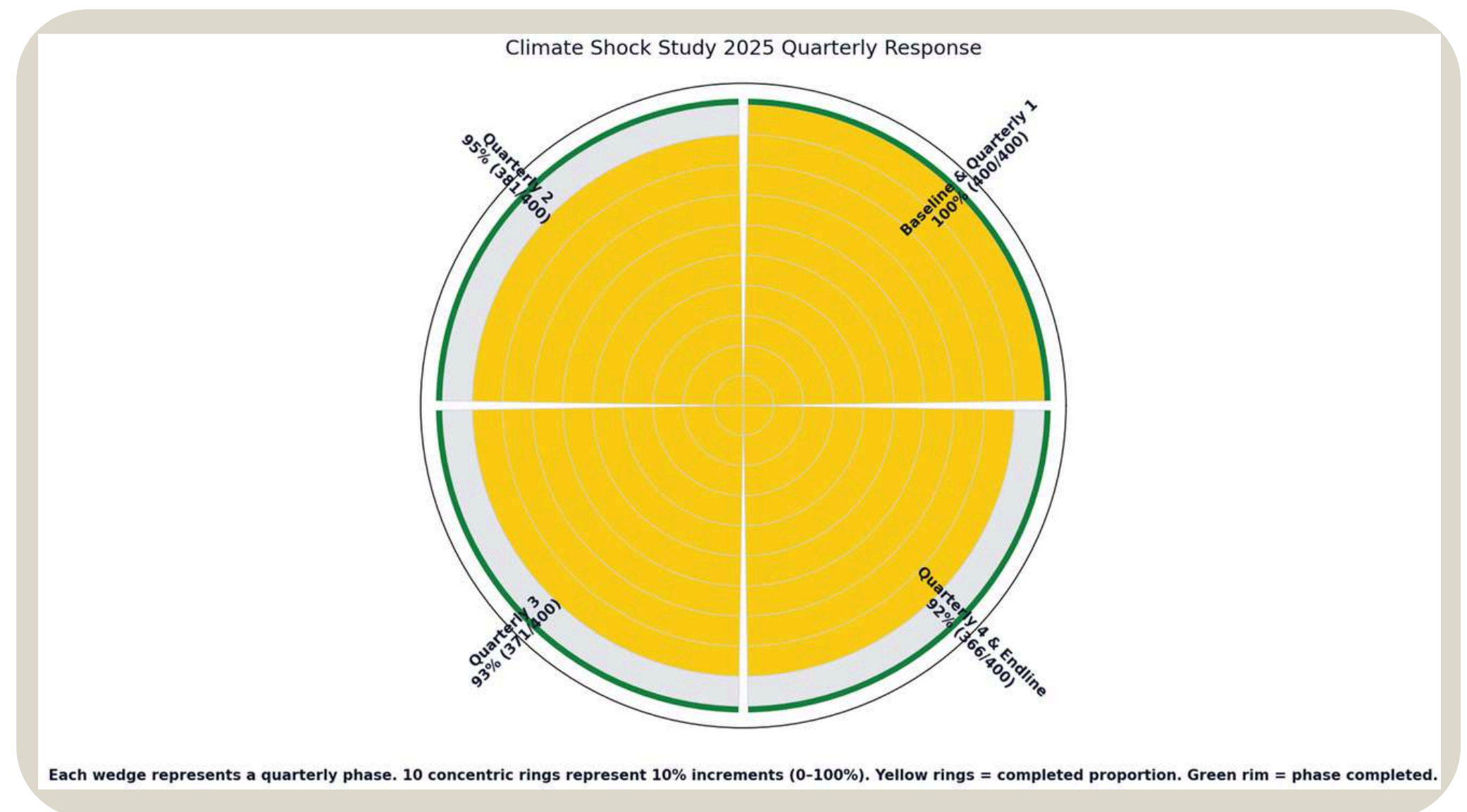
Beyond data generation, the collaboration strengthened institutional capacity and partnerships. RHSP hosted the Climate Shock Study Principal Investigator and the University of Michigan research team, reinforcing trust, knowledge exchange, and opportunities for future joint work.

Through hands-on engagement, RHSP field and data teams enhanced their skills in advanced mobile data collection, GPS capture, and digital data management—capabilities that continue to strengthen RHSP’s broader research portfolio.

The study also surfaced important operational lessons for conducting climate-sensitive research. Early phases were affected by limited internet connectivity, which complicated data uploads, as well as challenges in capturing GPS coordinates and household structural measurements in flood-affected areas. High mobility among fishing communities, combined with incomplete contact information, made follow-up more demanding.

In some cases, respondents who had experienced repeated climate shocks found it difficult to recall the exact frequency of events. Severe flooding in communities such as Kasensero further restricted access and increased the cost and complexity of reaching households.

Despite these challenges, the 2025 Climate Shock Study stands as a strong example of what collaborative, community-embedded research can achieve in complex environments. The findings contribute critical evidence to the growing intersection of climate change and health research, while the partnership itself reinforces RHSP’s role as a trusted platform for high-impact, globally relevant studies. As climate shocks intensify, insights from this work will inform more responsive health systems, community resilience strategies and evidence-based policy action.





SeroMARV Study: Strengthening Epidemic Preparedness Through Population-Based Serosurveillance

The growing frequency of viral haemorrhagic fever outbreaks across Africa has exposed a critical gap in epidemic preparedness: limited population-level data on prior exposure to high-risk pathogens. Marburg virus disease, a severe and often fatal illness caused by a filovirus closely related to Ebola, is typically detected only after outbreaks occur—when opportunities for early containment are already lost. Similar gaps exist for other WHO-priority pathogens, where asymptomatic or undiagnosed infections remain largely invisible to routine surveillance systems.

To address this challenge, the Uganda Virus Research Institute (UVRI) collaborated with the Rakai Health Sciences Program to implement the Seroprevalence of Marburg Virus Infection (SeroMARV) and Other WHO-Priority Pathogens Study in 2025. The study was part of a multi-country initiative spanning Uganda, Guinea, and Cameroon, coordinated by the Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR), Kumasi, Ghana. It was designed to generate high-quality serological evidence to inform early warning systems, epidemic intelligence and outbreak preparedness.

Study Setting, and Objectives

The Uganda component of the study was led by RHSP under the scientific oversight of Dr. Gertrude Nakigozi, Site Co-Investigator, with technical support from UVRI. Field activities were conducted in Kyotera District, south-central Uganda, a region selected for its ecological and epidemiological relevance.

Kyotera's tropical climate, forested and wetland ecosystems that support fruit bat populations, population mobility, and proximity to international borders place the district at heightened risk for zoonotic spillover and cross-border transmission. RHSP's long-standing presence and trusted community engagement platforms made it an ideal site for population-based surveillance.

The study aimed to: **1)** To understand how widely Marburg virus has already been encountered in communities, by measuring antibodies in blood samples that indicate previous exposure—even in people who never became visibly ill. **2)** To estimate how frequently new Marburg infections may be occurring over time, providing insight into the ongoing level of transmission risk within populations. **3)** To establish a sustainable, Africa-led serosurveillance platform that can be used not only for Marburg virus, but also for monitoring exposure to other WHO-priority pathogens and emerging threats.



RHSP laboratory technologist drawing blood from a study participant.

Study Design and Implementation

SeroMARV employed a population-based, household cross-sectional design using a two-stage cluster sampling approach. Households were systematically identified using geospatial mapping through the **OsmAnd** mobile application, enabling accurate navigation to randomly selected locations across rural, peri-urban, and fishing communities.

Implementation was carried out by a multidisciplinary RHSP team comprising research assistants, laboratory technologists, data managers, quality assurance officers, community engagement staff, and supervisors. Comprehensive training in Good Clinical Practice, biosafety, digital data capture, informed consent, and laboratory procedures ensured protocol adherence and data quality.

Community engagement was central to study success. RHSP conducted structured sensitization with district officials, community leaders, village health teams, and residents, complemented by household-level mobilization. These efforts addressed fears and misconceptions around Marburg virus, strengthened trust, and supported informed participation.

Participant Recruitment and Data Collection

The study team successfully enrolled 1000 participants aged 10 years and above from 10 communities in Kyotera District. Eligibility required residency in the household for at least three months, with written informed consent and assent procedures strictly followed.

Data collection was fully digitized using REDCap electronic case report forms, allowing secure offline capture and real-time synchronization. Daily data review and validation by quality assurance and data management teams ensured completeness, accuracy, and timely resolution of inconsistencies.

Each participant provided a 10 ml blood sample, alongside sociodemographic and health information, enabling comprehensive serological analysis.

Laboratory Processing and Quality Assurance

RHSP's biosafety level II laboratory supported all laboratory activities. Samples were transported from the field under controlled conditions, processed at designated field hubs, and archived following standardized SOPs. Samples were aliquoted, barcoded, and securely stored in -80°C freezers, supported by continuous temperature monitoring, alarm systems and backup power infrastructure. Routine equipment calibration, staff competency assessments, and quality checks ensured high laboratory standards throughout the study.

The SeroMARV study demonstrated RHSP's capacity to lead complex, community-based surveillance initiatives that strengthen epidemic preparedness. By translating advanced serological science into actionable public health evidence, RHSP is helping shift outbreak response from reaction to anticipation—protecting communities in Uganda and contributing to regional and global health security.

Key highlights

- 1000 participants enrolled across 10 communities
- Population-level evidence generated on prior exposure to Marburg virus
- 100% digital data capture, strengthening data quality and security
- High-quality biospecimen repository established for epidemic intelligence
- Over 30 staff trained, enhancing RHSP's outbreak readiness
- A scalable surveillance platform validated for future WHO-priority pathogens

RHSP Lab: Advancing Science, Enabling Impact



For over three decades, the Rakai Health Sciences Program (RHSP) Laboratory has been a cornerstone of high-impact research, clinical service delivery, and capacity strengthening in Uganda and the region. In 2025, the laboratory continued to demonstrate excellence in quality-assured diagnostics, innovative testing platforms, workforce development, and collaborative science, positioning RHSP as a trusted partner for communities, researchers, funders, and public health institutions alike.

Driving Research Excellence Through Laboratory Support

The Laboratory provided comprehensive support across multiple RHSP studies, ensuring reliable sample collection, processing, testing, and long-term archival. Our work directly underpinned evidence generation for HIV prevention, treatment, sexual and reproductive health, and emerging infectious diseases.

Key studies and services supported included:

- Rakai Community Cohort Study (RCCS): HIV, syphilis, viral load testing, and sample archival.
- VICINITY Study: HIV, syphilis, viral load, and chemistry testing.

- Centers of Excellence (COE) services: HIV, TB, CD4, TB LAM, HIV recency testing.
- INSTEP Study: HIV, syphilis, CT/NG, HPV, and Trichomonas vaginalis testing.
- Advanced Molecular Research: Quantification of HIV latent reservoir burden using IPDA on a ddPCR platform from extracted PBMC DNA.

Through timely and high-quality laboratory outputs, RHSP ensured that investigators had robust data to inform policy, programs, and clinical practice.

Extending Impact Beyond RHSP: Strategic External Collaborations

In addition to RHSP-led studies, the laboratory extended specialized services to partner institutions, reflecting our growing role as a regional reference and research laboratory:

- SeroMARV Study (UVRI): Processing samples for further testing of Marburg virus exposure.
- Biomarkers for Endothelial Activation Study: Testing archived RCCS plasma samples for Endocan and Selectin as markers of non-communicable disease risk.
- SchistoTrack Project (MoH – Vector Borne & NTD Division): Dry spot samples for viral load testing.

These collaborations highlight the laboratory's flexibility, technical depth, and readiness to support multidisciplinary and emerging research priorities.

Quality, Accreditation, and Institutional Strengthening

Quality remains the backbone of RHSP Laboratory operations. In 2025, the laboratory achieved re-accreditation for another four-year cycle under ISO 15189:2022, following a successful assessment against the updated international standard.

Beyond compliance, laboratory services contributed directly to RHSP's financial sustainability through the provision of commercial laboratory testing services—demonstrating that quality diagnostics can simultaneously support research excellence and program sustainability.

Innovation in Practice: Adapting Technology to Context

The laboratory continued to innovate by optimizing existing platforms to expand diagnostic capacity:

- Successfully conducted viral load testing from dry spot samples using the Abbott m2000 PCR platform without external technical support.
- Expanded HPV testing using swab samples, improving participant acceptability and operational efficiency.
- Implemented field-based innovations to maintain sub-zero temperature conditions for samples and reagents throughout the day, even in remote settings.

These innovations enhance access, reduce costs, and strengthen field-to-lab continuity—critical for large-scale population studies.

Investing in People: Capacity Building and Training

RHSP Laboratory remains committed to building a skilled and ethical health workforce. In 2025, the laboratory:

- Conducted 12 Continuing Medical Education (CME) sessions across diverse laboratory disciplines.
- Delivered two targeted trainings (sample collection and biohazard waste management) to non-laboratory staff.
- Supported one intern and one volunteer, contributing to mentorship and career development.
- Re-trained the incinerator operator, strengthening biosafety and environmental compliance.

These efforts ensure that quality systems are sustained through competent and motivated personnel.

Engagement, Feedback, and Accountability

In line with ISO 15189:2022 requirements, the laboratory actively sought and responded to client and participant feedback through suggestion boxes, surveys, phone calls, emails, and in-person interactions. Feedback mechanisms are visibly displayed across RHSP premises, and staff routinely guide clients on how to share concerns.

Common themes raised included test menu expansion, result communication, supply continuity, and service accessibility. All feedback was documented, reviewed, investigated, and addressed where feasible, with responses provided directly or posted on notice boards for anonymous submissions.

Knowledge Sharing and Leadership in Quality Systems

An Annual Laboratory Management Review Meeting was held on 20 November 2025, bringing together RHSP leadership, department heads, study coordinators, and laboratory staff. Through presentations and discussions, the effectiveness of the Quality Management System (QMS) was evaluated.

The review affirmed a vibrant and effective QMS, with commendation for laboratory performance. One quality indicator target—risk management—was strengthened, reinforcing RHSP’s commitment to continuous improvement.

Challenges Encountered and Responsive Solutions

Like many laboratories operating in resource-constrained settings, RHSP faced challenges including reagent stock-outs, staff turnover, equipment breakdowns, and infrastructure limitations. Proactive measures were taken, including diversifying suppliers, task sharing among staff, repairing and replacing critical equipment, and establishing interim solutions such as accessing purified water from partner laboratories.

These responses demonstrate institutional resilience and adaptive management in safeguarding service continuity.

Looking Ahead

The RHSP Laboratory stands at the intersection of research, service delivery, and innovation. With accredited systems, advanced diagnostic platforms, a skilled workforce, and a proven track record of collaboration, the laboratory is well positioned to support new scientific inquiries and public health priorities.

We invite researchers, funders, and institutions to partner with us in advancing evidence-based solutions, strengthening health systems, and improving lives—locally and globally.

Jane Flavia Nakachwa in charge of lab quality management leading the RHSP laboratory Management review meeting.





Causality of Post-TB Lung Disease Study

The Rakai Health Sciences Program (RHSP) in collaboration with the Johns Hopkins School of public health received a five year grant from the US National Institute of Health to launch an innovative population-based investigation titled “Causality of Post-TB Lung Disease: Population-Level Evidence from Rural Uganda.” The study addresses an emerging global concern: the long-term health consequences that persist even after successful Tuberculosis treatment.

Why This Study Matters

Although TB causes over a million deaths worldwide each year, emerging evidence shows that many survivors continue to suffer long-term respiratory impairment, diminished quality of life and increased risk of other illnesses. Yet little is known about how much of this lung damage is caused by TB itself versus pre-existing vulnerabilities. No prior study in high-burden settings has had population-level lung function data before TB occurs representing a critical gap that this study is uniquely positioned to fill.

Study Design and Scope

This five-year prospective cohort study leverages two large ongoing studies that is the Rakai Community Cohort study (RCCS) and the Epidemiology and Impact of the HIV, NCD, and Urbanization Syndemic in Africa (VICINITY) enabling follow-up of approximately 24,500 participants with pre-TB lung function tests and extensive health data.

Participants are to be monitored every three months for TB symptoms, treatment initiation and treatment history. Those who develop TB and their matched controls receive detailed lung function testing, biomarker evaluation and respiratory quality of life assessments for at least one year after TB treatment initiation.

Additionally, a population-wide sputum survey in Year 4 identifies both symptomatic and subclinical TB cases, strengthening the study’s ability to capture the full spectrum of TB disease.

Core Scientific Objectives

The study focuses on three primary aims:

1. Characterize how lung function changes before and after TB, comparing individuals who develop TB with matched community controls and examining differences by HIV status.
2. Identify baseline risk factors and biological markers that predict TB-related lung function decline.
3. Estimate the long-term burden of post-TB lung disease that could be prevented through targeted interventions such as TB prevention, earlier diagnosis, smoking cessation, HIV care and nutritional support.

This study will inform policy and high-impact interventions for post-TB care, strengthen early TB detection, and advance understanding of long-term lung disease

Supporting Evidence, Advancing Research: RHSP's Data Management and Biostatistics Work

At the Rakai Health Sciences Program (RHSP), data systems serve not only studies, but people—researchers, students, and partners across the globe. In 2025, the Data Management and Biostatistics Department reinforced this role by completing a major transition to fully digital field data collection, expanding institutional training, and sustaining support for a wide range of research studies and student researchers.

Driving Excellence in Data Management

The department plays a central role in ensuring that data collected across RHSP studies is accurate, secure, timely, and fit for analysis. This enables researchers to generate high-quality evidence that informs public health practice and policy.

A landmark achievement in 2025 was the migration of all field-based quantitative data collection from legacy systems such as FoxPro and MS Access to Research Electronic Data Capture (REDCap). This secure, web-based platform is now the standard across RHSP studies, supporting mobile data collection, real-time validation checks, and rapid reporting. The transition was carefully managed, resulting in minimal data loss and uninterrupted support to ongoing studies.

Building Capacity and Efficiency

Alongside system upgrades, the department invested heavily in training and mentorship. Staff from data, laboratory, quality control, and study teams were trained in REDCap use and good data management practices. Ongoing technical support—both on-site and remote—ensures that data issues are addressed promptly and efficiently.

The shift to digital systems has delivered practical benefits. Printing and paper storage costs have been reduced, manual data entry has been eliminated, and reporting timelines have significantly improved. Study teams are now able to generate end-of-day reports, design electronic case report forms more quickly, and receive remote support during data cleaning and analysis.



The Data team conducting training on the REDCAP App

Mentorship and Collaboration

The department contributes to training and mentorship for students and early-career researchers from institutions such as Johns Hopkins University, Columbia University, and Ugandan universities. By providing datasets, guidance in data analysis, and practical learning opportunities, RHSP strengthens the next generation of public health researchers.

Externally, RHSP collaborates with partners such as the Office of Cyber Infrastructure and Computational Biology (OCICB) at NIAID/NIH, updating dashboards to reflect recent data on HIV incidence, prevalence, male circumcision, and antiretroviral therapy coverage.

Looking Ahead: Sustaining Data Gains

The future of RHSP's data systems calls for sustained investment and innovation. Continuous staff training in digital data management and advanced analyses will remain a priority. Stronger, secure data security and backup systems will be developed, alongside robust data governance frameworks. The department is also exploring expanded use of electronic consenting to enhance efficiency, and artificial intelligence tools to strengthen data validation and reporting. Collaboration with the wider REDCap community will help harmonize standards and improve system utilization, while the full transition of all RHSP data from legacy systems to REDCap will ensure sustainability.

Conclusion

Through these efforts, the Data Management and Biostatistics Department continues to advance RHSP's mission by providing reliable data systems that enable high-quality research, strengthen collaboration, and contribute to improved public health outcomes. The department's work in 2025 exemplifies RHSP's commitment to innovation, sustainability, and global impact.

Rakai Community Cohort Study slows down

The Rakai Community Cohort Study (RCCS) has experienced a significant operational slowdown due to funding constraints. This constraint called for difficult strategic decisions to preserve the core infrastructure of the cohort while scaling back the breadth of data collection and participant enrollment.

To align activities with available resources and maintain community engagement, RCCS implemented a reduced cohort census and an abridged survey model. In the case of census, focus was put on the survey eligible households. Whereas cohort enrollment was limited to a subsample of participants required to support active nested studies.

Although this approach allowed essential scientific activities to continue, it has introduced several operational and scientific challenges such as reduced statistical power and representativeness, disruption to longitudinal follow-up and a high risk of community disengagement. It should be noted that these challenges come along with potential implications for the cohort, the organization and key stakeholders. Some of the key implications include impact on HIV Surveillance and Policy-Relevant Data and weakening of the cohort's capacity to attract new collaborations and external funding, thus compromising its long-term sustainability.

The RCCS goes digital. The RCCS has continued to scale up digital platforms for data capture. Previously, the census was paper based; however, beginning 2025, all household enumeration and mobility data are captured digitally using Redcap. This shift has introduced new operational changes - such as zoning of communities. Without compromising data quality, the digital census will accelerate field activities, reduce office-based data entry requirements, and improve the turnaround time for cleaned datasets.



From June 13–19, 2025, RHSP's Rakai Community Cohort Study (RCCS) team underwent an intensive week of training to prepare for Round 22. Staff from Data & Statistics, Quality Control, Health Education, and Community Mobilization (HECM) departments engaged in REDCap refresher modules, guided questionnaire practice and collaborative problem-solving sessions.

The training emphasized participant-centered care, data integrity, and clear study messaging, with the HECM team ensuring consistency across sites. By openly reflecting on past challenges and refining approaches together, the RCCS team strengthened cohesion, sharpened technical skills, and renewed confidence—laying a strong foundation for the successful launch of Round 22.

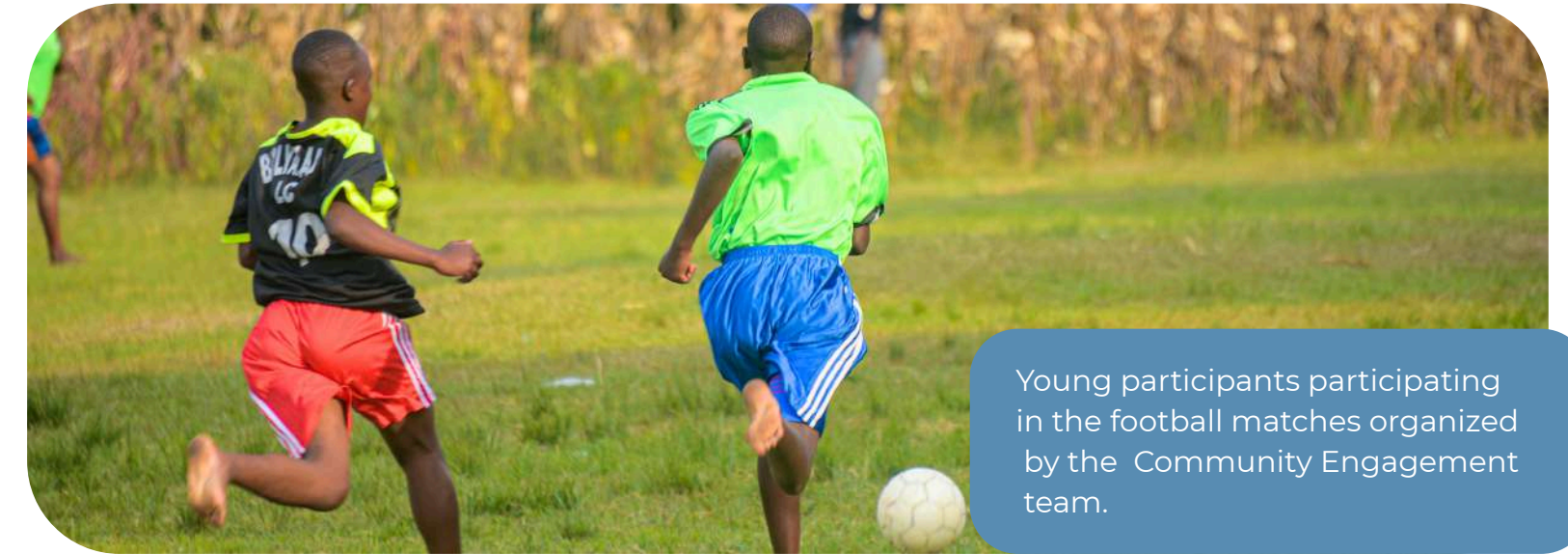
Improving Understanding of Capacity to Consent to Sensitive Biomedical Research among Adolescents in Rakai, Uganda (ICARE).

The ICARE study was designed to address a critical and often overlooked question: how well adolescents understand what it means to participate in sensitive biomedical research. The study enrolls adolescents across three developmental stages (10–14, 15–17, and 18–19 years), alongside their guardians, to generate a comprehensive understanding of how consent is interpreted, negotiated, and supported within families and communities.

Participant recruitment commenced in August 2025 and is progressing well. By December 2025, 84 of the 432 (19%) targeted MacArthur Competence Assessment Tool for Clinical Research (MacCAT-CR) qualitative interviews had been completed. All participants who completed the qualitative interviews also completed the corresponding quantitative surveys. In addition, 30 of the 216 (14%) targeted in-depth interviews have been conducted. Data collection continues, alongside concurrent transcription of completed interviews, to ensure timely processing and readiness for analysis.

The team anticipates starting Year 3 project activities upon receipt of the necessary approvals, expected in January 2026. The Social and Behavioral Sciences (SBS) team continues data collection and aims to complete this phase by September 2026, with data analysis planned for completion by June 2027. During the reporting period, the study team participated in the International AIDS Society (IAS 2025) global meeting in Kigali.

ROC Study: Understanding Orphanhood and HIV Risk in Rakai



The Rakai Orphans in Communities (ROC) Study continues to apply a rigorous mixed-methods design, integrating high-quality qualitative interviews, quantitative analyses, and econometric modelling. This approach reflects RHSP's commitment to generating robust evidence to strengthen community health responses. The study team remained well-staffed to effectively implement activities across the different study objectives. The study is conducting life history interviews with adolescents aged 15–24, including non-orphans, single (early and late) orphans, and double orphans, as well as their caregivers, with a target of 64 dyads.

By December 2025, 43 of the planned 64 dyads had been enrolled, comprising 32 single-orphan dyads, 10 double-orphan dyads, and 1 non-orphan dyad, leaving 21 dyads to reach the target. Transcription is ongoing; of the 43 enrolled dyads, 36 have been transcribed, with 7 remaining. Completed transcripts are securely shared with partners and collaborators to facilitate timely analysis, which is on track. Enrollment of the remaining dyads is scheduled to continue from January 2026.

During the reporting period, the study team participated in the International AIDS Society (IAS 2025) global meeting in Kigali, where preliminary findings from the study were presented. Overall, the project is approximately halfway complete, and the team is well-positioned to achieve its objectives and produce key publications by the end of the fifth project year.

Understanding women's care-seeking behaviors for STIs in Uganda- Instep

Sexually transmitted infections (STIs) remain a significant burden among women in Uganda, yet little is known about the factors that encourage or discourage women from seeking timely care. Many STIs are asymptomatic, and even when symptoms occur, especially genital discharge syndromes, women often delay or avoid clinical treatment. This behavior results in untreated infections, increased risk of reproductive complications, and continued transmission to sexual partners. To address these gaps, this study investigates the experiences, interpretations, and care-seeking decisions of women with STI symptoms, as well as those diagnosed with infections but reporting no symptoms.

This qualitative research component is embedded within the [Integrated Female Sexually Transmitted Infection Testing](#) (INSTEP) clinical trial, which operates in 34 communities across four districts in southern Uganda. This region experiences high burdens of HIV and syphilis, with some communities recording high-titer syphilis prevalence of approximately 9% among adults aged 15–49. Its geographic location near two major transnational highways, including the Trans-African Highway bordering the Democratic Republic of Congo, increases vulnerability to emerging infectious diseases such as Mpox. The study population is therefore situated in a setting where STI prevention, early care-seeking, and effective partner management are particularly crucial.

Participants for this qualitative sub-study are recruited from both the intervention arm of INSTEP, which offers etiologic STI screening and testing, and the control arm, which provides syndromic management. This design enables a deeper understanding of how women experience symptoms, interpret STI risk, engage with health services, and respond to diagnosis under different models of care.

Through in-depth interviews, the study explores two major behavioral questions: why some women with symptoms do not seek clinical care, and how asymptomatic women receiving laboratory-confirmed STI diagnoses perceive and respond to these findings. Insights from these interviews will inform strategies to improve symptom recognition, increase care uptake, and reduce community transmission.



Female participant at the RCCS hubs waiting to receive services.

The study also examines partner notification, a key but often challenging component of STI management. Women's experiences with passive partner referral, couples testing and treatment, and expedited partner therapy are explored to understand disclosure decisions, partner reactions, and barriers to partner treatment. Findings will guide improvements in patient-centered partner management approaches within RHSP and beyond. Additionally, cognitive interviewing is used to assess how participants interpret survey questions related to STI symptoms. This work strengthens the clarity and cultural relevance of symptom questionnaires, improving both research quality and clinical application of syndromic management tools.

The study is funded for implementation from 1 October 2025 to 30 March 2027. It is led by the Johns Hopkins Bloomberg School of Public Health in collaboration with the Rakai Health Sciences Program. The Principal Investigator, Dr. Ronald M. Galiwango, brings extensive expertise as a physician-scientist and Laboratory Director of the SANAS-accredited RHSP laboratory. All required ethical approvals have been secured from the Uganda National Council for Science and Technology, the Uganda Research and Ethics Committee, and the Johns Hopkins School of Medicine IRB.

The primary output of the study, comprehensive qualitative data on women's STI care-seeking behaviors, remains on track for completion by 30 March 2027.

This study is expected to produce actionable evidence on the social, emotional, and structural drivers of STI care-seeking among women. The findings will guide improvements in STI service delivery, promote earlier treatment, reduce transmission, and enhance the effectiveness of broader STI and HIV prevention programs in Uganda.



PROGRAMS

RHSP HIV Clinic Status

Report 2025

HIV Testing Services (HTS)

RHSP implemented facility-based HIV Testing Services (HTS), reaching a total of 2,040 individuals, equivalent to 54% of the annual target of 3,794. This shortfall was primarily due to grantor-imposed restrictions that were effective October 2025 on community-based HIV testing, as available resources were prioritized for the care and treatment portfolio rather than HIV prevention activities.

Despite these constraints, RHSP demonstrated strong performance in identifying new HIV infections. Among those tested, 80 individuals were newly diagnosed with HIV, representing 83% of the annual target of 96 new diagnoses and yielding a positivity rate of 4%. This relatively high yield reflects effective self-selection of individuals from higher-risk groups seeking testing at the RHSP Centre of Excellence clinic.

Each new diagnosis was treated as a critical opportunity not only for timely linkage to care but also for interrupting onward HIV transmission. All newly diagnosed clients were immediately linked to care and initiated on antiretroviral therapy. These results underscore RHSP's effectiveness in case identification and linkage to treatment, even within a constrained testing environment. Had community-based HTS outreaches been permitted, as in previous years, RHSP would likely have met or exceeded its annual HIV testing targets.

Indicator	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total	Target
HIV Testing	714	1004	235	87	2040	3794
Tested HIV+	25	35	11	9	80	96

Pre-Exposure Prophylaxis (PrEP) Services

RHSP demonstrated strong performance in scaling up Pre-Exposure Prophylaxis (PrEP) as a key component of its HIV prevention strategy, particularly among individuals at substantial risk of HIV acquisition. A total of 241 individuals were initiated on PrEP against an annual target of 256, achieving 94% of the planned target. This high level of uptake reflects RHSP's effective risk assessment processes and sustained commitment to expanding access to biomedical HIV prevention services, even within a constrained funding environment for prevention activities.

Key Highlights

2,040 individuals tested for HIV

80 individuals were newly diagnosed with HIV and linked to care.

2,693 people living with HIV (PLHIV) actively maintained on antiretroviral ART

Key Highlights

99% virally suppressed

318 women screened for cervical cancer

131 ART clients were enrolled in TB Preventive Therapy (TPT)

HIV Care and Treatment Services

RHSP continued to provide HIV care and treatment services in 2025, demonstrating stable and consistent performance across key indicators along the care cascade. A total of 2,693 people living with HIV (PLHIV) were actively maintained on antiretroviral therapy (ART) throughout the year.

During the reporting period, 80 individuals were newly initiated on HIV treatment, achieving 103% of the annual target of 77. This performance reflects effective HIV testing, timely linkage to care, and same-day ART initiation practices.

Proxy retention in care reached 99.8% (2,693 of 2,696) expected clients), indicating strong continuity of care and effective adherence support mechanisms. By the end of 2025, twenty-five (25) clients were recorded as lost to care. All were actively followed up: two (2) formally transferred out, six (6) were confirmed to still have antiretroviral medication, 4 indicated an intention to return but had not yet done so, and Thirteen (13) could not be traced despite follow-up efforts.

This low loss-to-follow-up rate demonstrates the strength of RHSP's community-based support mechanisms, peer navigation, and differentiated service delivery models.

These achievements reflect not only quantitative success but also the program's quality and resilience, ensuring that individuals living with HIV receive lifelong, person-centered care that is accessible, consistent, and responsive to their needs.

Viral Load Testing and Suppression Monitoring

In 2025, RHSP maintained strong performance in HIV treatment monitoring through routine viral load (VL) testing, a critical indicator of treatment effectiveness and progress toward epidemic control. Of the 2,771 clients eligible for viral load testing, 2,581 (93%) received VL testing during the reporting period. This high coverage reflects well-functioning systems for routine monitoring and a sustained commitment to optimizing treatment outcomes for clients on ART.

Among those tested, 99% (2,552 of 2,581) achieved viral suppression, indicating consistently effective HIV care and treatment services. High levels of viral suppression are essential for improving individual health outcomes and substantially reducing the risk of onward HIV transmission at the population level. Seventeen clients were identified with unsuppressed viral loads and were promptly enrolled in intensive adherence counseling and enhanced follow-up to address barriers to treatment adherence and support re-suppression. These targeted interventions demonstrate RHSP's focus on responsive, data-informed care and continuous quality improvement. Overall, this performance reflects sustained progress toward the UNAIDS 95-95-95 targets, particularly the third "95," ensuring durable viral suppression among individuals receiving ART.

Cervical Cancer Screening Among Women Living with HIV (Aged 25–49)

We sustained our commitment to integrated HIV care for women by prioritizing cervical cancer screening, a critical intervention for preventing cancer-related morbidity and mortality among women living with HIV. A total of 318 women aged 25–49 years were screened for cervical cancer, representing 74% of the annual target (430 women).

Achievement of the annual screening target was affected by an external programmatic disruption. Following the Stop Work Order (SWO) issued on 20 January 2025, RHSP implemented three months of unplanned antiretroviral therapy (ART) refills for 1,118 clients to ensure continuity of HIV treatment during the review period. As a result, many eligible women did not return to the clinic on their scheduled visit dates and consequently missed planned cervical cancer screening services during the reporting period. Among the women screened, sixty-five (65) were identified as eligible for treatment of HPV-related pre-cancerous lesions.

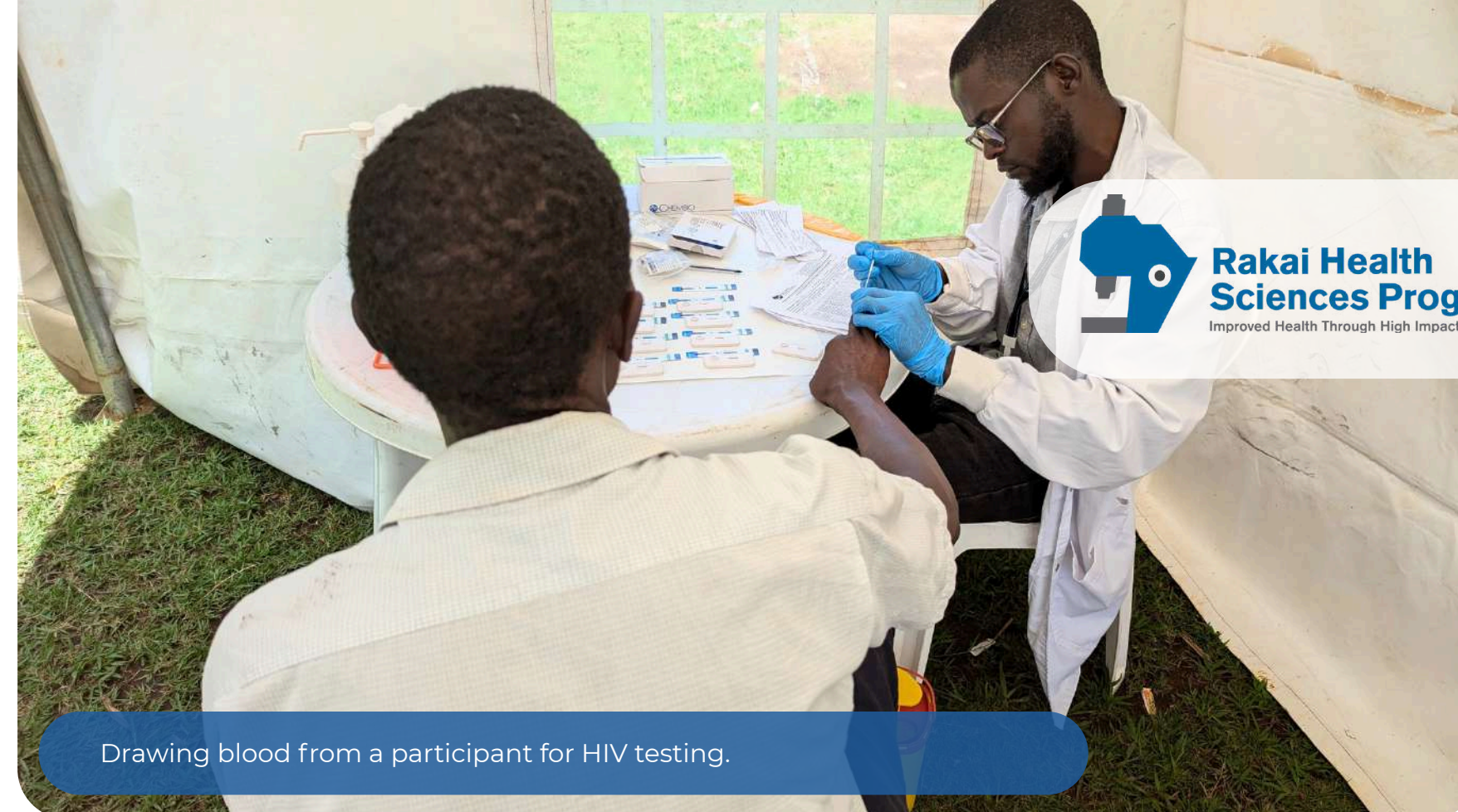
RHSP responded promptly to ensure timely clinical management: Fifty-two (52) women received appropriate treatment using either thermocoagulation or the Loop Electrosurgical Excision Procedure (LEEP), both highly effective interventions for preventing progression to invasive cervical cancer. One client was referred to Masaka Regional Referral Hospital for advanced care, while seven (7) clients were pending treatment at the time of reporting, with active follow-up mechanisms in place to ensure completion of care.

Despite implementation challenges, RHSP's cervical cancer screening and treatment efforts continue to strengthen the quality of comprehensive HIV care for women and contribute meaningfully to national and global cervical cancer elimination goals.

Tuberculosis (TB) Screening, Treatment, and Prevention

RHSP maintained a strong and integrated TB/HIV strategy in 2025, reinforcing its commitment to ending both epidemics through early detection, prompt treatment, and effective prevention.

All 2,693 clients actively receiving antiretroviral therapy (ART) were systematically screened for tuberculosis (TB), ensuring no opportunity for early diagnosis was missed. As a result, 11 individuals were identified with TB-HIV co-infection and promptly linked to care.



Drawing blood from a participant for HIV testing.

Beyond facility-based efforts, RHSP implemented a targeted Social Network Strategy for community TB case finding. Through this approach, thirty (30) HIV-negative individuals were diagnosed with TB, identifying cases that might otherwise have gone undetected and demonstrating RHSP's effectiveness in bridging facility and community TB surveillance.

In total, 41 individuals were diagnosed with TB during the year, all of whom (100%) were immediately initiated on anti-TB treatment.

This represents 69% of the annual treatment target of 59 cases, reflecting partial progress toward national TB control objectives. Performance was constrained by grant limitations that did not permit expenditure on non-HIV care patients, thereby limiting TB case identification and treatment among HIV-negative individuals. Continued progress toward the annual target will require expanded support for TB services beyond HIV-associated cases.

In addition to TB treatment, RHSP emphasized prevention. A total of 131 ART clients were enrolled in TB Preventive Therapy (TPT), a key intervention to reduce the risk of TB infection and morbidity among people living with HIV.

These efforts highlight RHSP's commitment to delivering high-quality, client-centered TB services fully integrated within HIV care, contributing to improved health outcomes, reduced transmission, and progress toward national and global TB elimination goals.

Counselling in Research and Program Settings

RHSP's counselling team delivered comprehensive counselling, prevention, and psychosocial services to **9,337 clients**, including both research participants and non-research clients. Services provided included HIV counselling and testing, child and adolescent counselling, family and couples counselling, career counselling, counselling for older adults, and psychosocial support. Of all clients reached, **7,893 consented to HIV testing and were tested**.

HIV Testing, Linkage, and Care Continuity

Among those tested, 101 clients were newly diagnosed with HIV and were successfully linked to HIV care. Counsellors ensured complete linkage by escorting clients to their preferred health facilities. For facilities distant from testing sites, counsellors coordinated linkage through direct phone communication with receiving facilities using the national ART clinic directory. A follow-up was conducted to confirm enrollment into care and progression toward viral suppression.

Post-Exposure Prophylaxis (PEP) Services

The counselling team provided **post-exposure prophylaxis (PEP)** to Twenty five 25 clients who reported potential sexual exposure to HIV within **72 hours**. These clients received timely PEP initiation, risk-reduction counselling, and appropriate follow-up to support completion of the PEP regimen.

Psychosocial Support Services

The counselling team provided psychosocial support to:

- RHSP study participants,
- Clients receiving care at the Centre of Excellence clinic, and
- RHSP staff.

These services addressed mental health needs, coping with HIV diagnosis, treatment adherence challenges, workplace stress, and overall psychosocial well-being.

Intensive Adherence Counselling (IAC)

To support progress toward the third UNAIDS 95 target (viral suppression), 78 virally non-suppressed clients were enrolled in intensive adherence counselling (IAC). Each client received monthly IAC sessions for a minimum of three months. As a result, 41 clients achieved viral suppression, while others were either awaiting viral load results from the Central Public Health Laboratories (CPHL) or remained on ongoing IAC at the time of reporting.

Couples Counselling and Testing

Counsellors actively promoted couples' HIV counselling and testing. Through this approach, 168 clients received couples counselling and testing services, contributing to improved mutual disclosure, treatment support, and relationship well-being.



HIV Contact Tracing and Partner Notification

The counselling team enrolled **64 HIV index clients** into HIV contact tracing using multiple strategies, including Assisted Partner Notification, Social Network Strategy, Index Biological approaches, and identification of new sexual partners among viral load non-suppressors. With counsellor support, these index clients elicited 90 HIV contacts, who were subsequently offered HIV testing and prevention services.

Gender-Based Violence (GBV) Counselling and Response

Clients were routinely screened for gender-based violence (GBV). Twenty (20) survivors reported experiencing GBV and received comprehensive services, including psychological first-line support, trauma counselling, HIV counselling and testing, STI screening and treatment, PEP where indicated, and referral to appropriate support and protection services

Key Highlights

9,337 clients received counselling

101 clients linked to HIV care counsellors

168 clients received couples counselling and testing services

20 clients reported experiencing GBV and received comprehensive services

Community Engagement Activities in 2025



Women's Football

RHSP uses women's football as an innovative community engagement platform to support HIV and STD research in south-central Uganda. Football tournaments provide a culturally acceptable, non-stigmatizing space to engage women and adolescent girls—groups often underrepresented in research due to gender norms, stigma, and caregiving responsibilities. Women's football proved most effective, with attendance exceeding 3,000 at the Kasasa-Sanje finals.

These activities facilitate bidirectional engagement: researchers share study objectives, procedures, and ethical considerations, while participants and community members provide feedback, raise concerns, and help refine recruitment and follow-up strategies. Team-based participation fosters peer support and trust, with female players often serving as peer champions who promote accurate information and voluntary study participation.

Implemented in collaboration with the Community Advisory Boards and local leaders, women's football enhances the ethical conduct, acceptability, and feasibility of HIV/STD research. By combining empowerment, social cohesion, and research engagement, this strategy strengthens informed participation, reduces stigma, and promotes community ownership of RHSP's research initiatives.

In 2025, RHSP implemented comprehensive community engagement activities across multiple study regions to prepare communities for Round 22 and support affiliated studies, including Rakai Orphans in Communities (ROC), ICARE, IN-STEP, and VICINITY. Engagement strategies prioritized participatory, culturally appropriate approaches, including sports, drama, community meetings, and quarterly Community Advisory Board (CAB) consultations.

Planning and Coordination

Planning (sensitization) meetings with Community Health Mobilisers (CHMs) and community leaders across six (6) regions of Kyotera, Kabira, Kasasa-Sanje, Kakuuto, Lwanda, and Lyantonde were held. Updates to the Round 22 Mobilization Guide and standardized messages for IN-STEP and VICINITY studies were initiated to ensure coordinated and harmonized outreaches.



Community Engagement Activities in 2025



Drama as a Community Engagement Strategy

RHSP uses community drama as an innovative, culturally resonant approach to engage communities in HIV and STD research across South-Central Uganda. Performed by trained local actors and peer educators, drama provides an interactive platform to discuss sensitive topics such as HIV prevention, testing, treatment adherence, sexual and reproductive health, and stigma reduction.

These performances raise awareness about ongoing and upcoming studies, explain study procedures and ethical considerations in accessible language, and encourage voluntary participation, while audience questions and feedback create bidirectional dialogue that informs researchers of community concerns.

Drama also reduces fear and stigma, normalizes conversations around HIV/STD research, and promotes informed consent, particularly among populations facing barriers to facility-based engagement, including adolescents, young adults, and marginalized groups. Implemented in collaboration with Community Advisory Boards, local leaders, and peer educators, this strategy aligns with community values and ethical standards, strengthens trust and social cohesion, and enhances recruitment, retention, and adherence to study protocols.

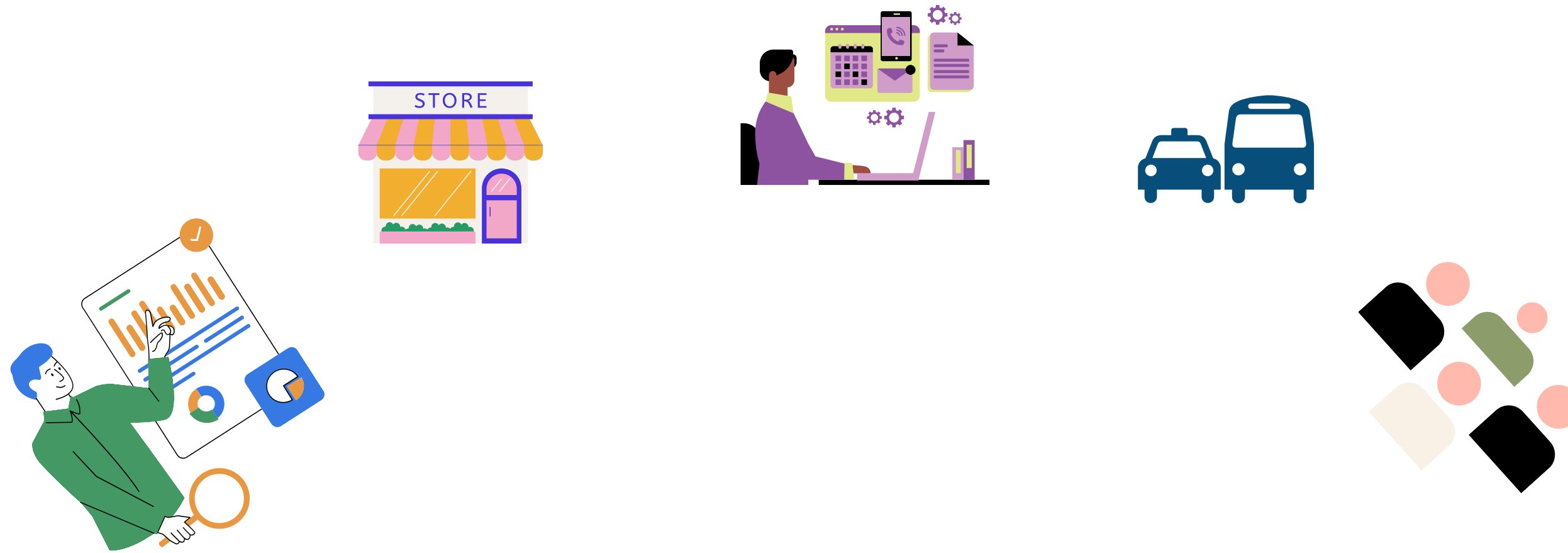
Engagement with the RHSP CAB

The RHSP Community Advisory Board (CAB) is a cornerstone of ethical, community-centered HIV and STD research in south-central Uganda, serving as a formal bridge between researchers and the populations they serve.

It comprises nine members, each representing key community groups, including adolescent girls and young women (AGYW), youth, fisherfolk, civil servants, politicians, and older persons, ensuring broad representation of perspectives and priorities.

The CAB meets quarterly to review study updates, provide feedback, highlight emerging concerns, and offer guidance on culturally sensitive implementation strategies. By synthesizing community input, the CAB shapes study design, recruitment, informed consent, and communication materials, ensuring research is relevant, acceptable, and ethically conducted.





ADMINISTRATION

Operations management

With the full installation of the solar systems on the premises, we have been able to achieve an energy savings of about 37.89% for the RHSP Head Quarter office & 69.26% for the Freezer Banks.

We now have the expertise internally to service and maintain our assets and equipment, saving a substantial amount of money annually and extending the asset life cycle of our valuables.

We have been in phase of updating all our manuals and standard operating procedures. Operations practice manuals are all now available on our portals for easy access.

We have also achieved general operational cost savings of about 38.28% stemming from the management of our drinking water resources and toiletries.

Due to the challenges being faced in the funding world, we have had to right size our workspace to more shared workspaces, office movements to allow teams concentrate on core competencies and achieve operational efficiencies such as the obvious savings on utilities and expenditure reductions in the support of these closed spaces.

Human Resource



The Human Resources Department continued to play a central role in strengthening RHSP's workforce through improved systems, staff development, and employee engagement initiatives. The year was marked by notable progress in compliance, digital transformation, and internal capacity building.

A key milestone was the recognition by the National Social Security Fund (NSSF), reflecting RHSP's sustained compliance with statutory obligations and its commitment to staff welfare. In parallel, the department successfully rolled out the Human Resource Information System (HRIS), enhancing efficiency in staff records management, payroll administration, and workforce planning.

To promote open communication and staff wellbeing, HR conducted HR Clinics, providing structured platforms for staff engagement, guidance, and timely resolution of human resource-related matters.

Staff development remained a core focus. The department supported career progression and internal promotions, contributing to leadership continuity and institutional growth. Notable promotions demonstrating RHSP's commitment to recognizing talent and enabling upward mobility.

The department also advanced RHSP's capacity-building mandate by supporting internship training for twenty four (24) students, comprising thirteen (13) local and eleven (11) international interns. This strengthened skills development, knowledge exchange, and mentorship within the organization.

Overall, the Human Resources Department's efforts reinforced RHSP's people-centred approach, ensuring that staff wellbeing, professional growth, and efficient workforce management remain integral to the organization's mission.

PEOPLE AND EXCELLENCE



DR. ROBERT SSEKUBUGU

**Deputy Director of
Research and Head of
Grants, Science, and
Training**

Dr. Robert Ssekubugu earned his PhD in Global Health from Karolinska Institutet, where his research advanced understanding of how response timing, mobile technologies, and data collection tools influence survey bias and data quality in public health research.

With over 15 years of experience in research and surveillance, he currently serves as Deputy Director of Research and Head of Grants, Science, and Training at the Rakai Health Sciences Program (RHSP), providing strategic leadership across research, funding, and capacity-building initiatives.



DR ROBERT KAIRANIA
**Head of the Community
Health Services
Department**

Dr. Robert Kairania recently completed his PhD in Medical Anthropology at the University of Nairobi, strengthening the intersection between community health practice and social science research.

He currently serves as Head of the Community Health Services Department at the Rakai Health Sciences Program (RHSP).

Previously, he led RHSP's HIV Prevention and HIV Testing Services (HTS) programs under PEPFAR, providing leadership that drove exceptional performance in HTS, Key Populations and PrEP indicators across the Masaka region. His work is complemented by active contributions to scientific research through peer review and scholarly publications.

PEOPLE AND EXCELLENCE



LILIAN NEGESA
Epidemiology Supervisor

Lilian Negesa, currently serves as the Epidemiology Supervisor at the Rakai Health Sciences Program. She has grown into her role through years of hands-on experience and dedication to public health research. She supports surveillance activities, oversees study implementation, and ensures high-quality data that informs public health action.

She began her journey in 2016 as a Research Assistant and steadily advanced through roles as Field Editor and Research Officer/Team Leader, building strong expertise in data quality, team leadership, and field coordination.

Alongside her career, Lilian earned a Master of Public Health from Makerere University, strengthening her foundation in epidemiology and research. Her journey reflects resilience, growth, and a strong commitment to impactful science.



JULIAN KOBUSINGYE
Counsellor Supervisor

Julian Kobusingye, Counsellor Supervisor at RHSP recently graduated with a Master's in Mental Health Psychology from Uganda Martyrs University. With almost a decade of dedicated service, Julian has transformed lives through HIV testing, psychosocial care, and community health programs.

Since joining RHSP in 2017, she has empowered countless individuals with counseling, education, and linkage to vital services like ART, PrEP, and family planning. Today, Julian leads RHSP's counseling team with vision and compassion—building staff capacity, ensuring quality care, and advancing mental health integration.

Her journey reflects not only academic excellence but also unwavering commitment to community-centered care. Julian's leadership continues to inspire colleagues and uplift communities, making her a true pillar of RHSP's mission.

EXCELLENCE AT RHSP

At the Africa Health Summit 2025, RHSP founders Prof. David Serwadda and Prof. Nelson Sewankambo were honored by Uganda's Ministry of Health with the Excellence in Health Academia Award, recognizing their pioneering contributions to HIV research, public health innovation, and the global fight against HIV/AIDS.



RHSP was recognized by the National Social Security Fund (NSSF) as one of the top compliant organizations in Uganda's South Central region for timely contributions and strong commitment to employee welfare and accountability.



Dr. Godfrey Kigozi, Executive Director RHSP, was honored by the International Center for Child Health and Development (ICHAD) for over a decade of impactful collaboration advancing research and strengthening health outcomes for children and adolescents across Uganda.



RHSP was recognized as the Top eduroam User in the Research Institutions category at the RENU Annual General Meeting on May 2, 2025, highlighting our commitment to digital connectivity and collaborative research.



RHSP I.T Section – Strengthening the Digital Backbone of Research

The RHSP IT section, supported by Research Data & Communication Technologies (RDCT) and operating within the broader collaboration framework of OCICB/NIAID/NIH, focused on addressing infrastructure limitations, improving system reliability, strengthening security controls, and ensuring continuity of critical services across the Interdisciplinary Consortium for Epidemics Research (ICER) operations.

In this framework, RDCT provides technical support, ICT infrastructure, systems management, and data management services that sustain research and operational environments. OCICB/NIAID/NIH provides the broader research collaboration framework, programmatic partnership, and institutional context supporting scientific, laboratory, and field activities. Together, these entities ensure RHSP operations are supported by secure, reliable, and compliant technology services.

The section is composed of dedicated team managing and supporting several cross-cutting technologies like Microsoft, Meraki, Cisco, Ms Navision, Redcap, Uganda EMR, ODK Central, Freezer works and ALIS.

RENU Microwave Backup Circuit deployed

Reliable connectivity is at the core of RHSP's operations. To strengthen network resilience, a RENU microwave backup circuit was deployed to strengthen connectivity resilience for internet and point-to-point services between Kalisizo and Masaka. The circuit provides a reliable secondary communication path alongside the primary fiber connection, ensuring service availability during primary link interruptions.

This implementation improves service continuity, reduces downtime, and enhances network failover capabilities to support daily operations.

Smart Temperature Monitoring for Sample Protection

The deployment of the DicksonOne temperature monitoring system at the Kalisizo freezer house and laboratory marks a significant advancement in safeguarding critical samples. Replacing the legacy ViewLinc system, this cloud-based solution offers greater flexibility and continuous remote monitoring of environmental conditions.

Authorized staff can now access real-time data and receive instant alerts from anywhere, enabling quicker responses to temperature fluctuations and reducing the need for constant physical oversight.

Even during local network outages, the system remains reliable by issuing alerts via SMS and email through third-party services. This upgrade not only strengthens monitoring efficiency and responsiveness but also enhances the protection of stored samples while ensuring compliance with required standards.



Inside the RHSP Kalisizo freezer house. On the right, the Dickson one temperature monitoring device.

Modernizing Infrastructure for Performance and Resilience

To keep pace with growing operational demands, RHSP upgraded its core infrastructure by implementing a VMware vSAN-based hyper-converged cluster, replacing the aging ESXi environment. This modern platform brings together computing, storage, and virtualization into a single, streamlined system powered by high-performance SSDs—resulting in faster processing, improved system responsiveness, and more efficient use of resources.

By distributing workloads and storage across multiple hosts, the architecture enhances high availability and fault tolerance, reducing the risk of service interruption. It also simplifies infrastructure management through centralized administration, enabling easier monitoring, maintenance, and scalability.

Backup Infrastructure Upgrade

The RHSP backup system was upgraded with the installation of an HPE MSL 2024 tape autoloader with LTO-9 drives on the primary backup server.

Previously, backups relied on standalone LTO-5/6 tape drives that required manual handling and offered limited capacity and slower performance. This created risks of delayed backups and inefficient tape management.

The new solution introduces automated tape handling, higher storage capacity, and faster data transfer speeds. This results in more reliable backups, reduced human error, and improved disaster recovery readiness.



HPE MSL 2024
tape autoloader



The I.T team drove a series of strategic technology upgrades and security enhancements that strengthened the organization's digital infrastructure, improved communication reliability, and advanced secure access to critical platforms as shown below:

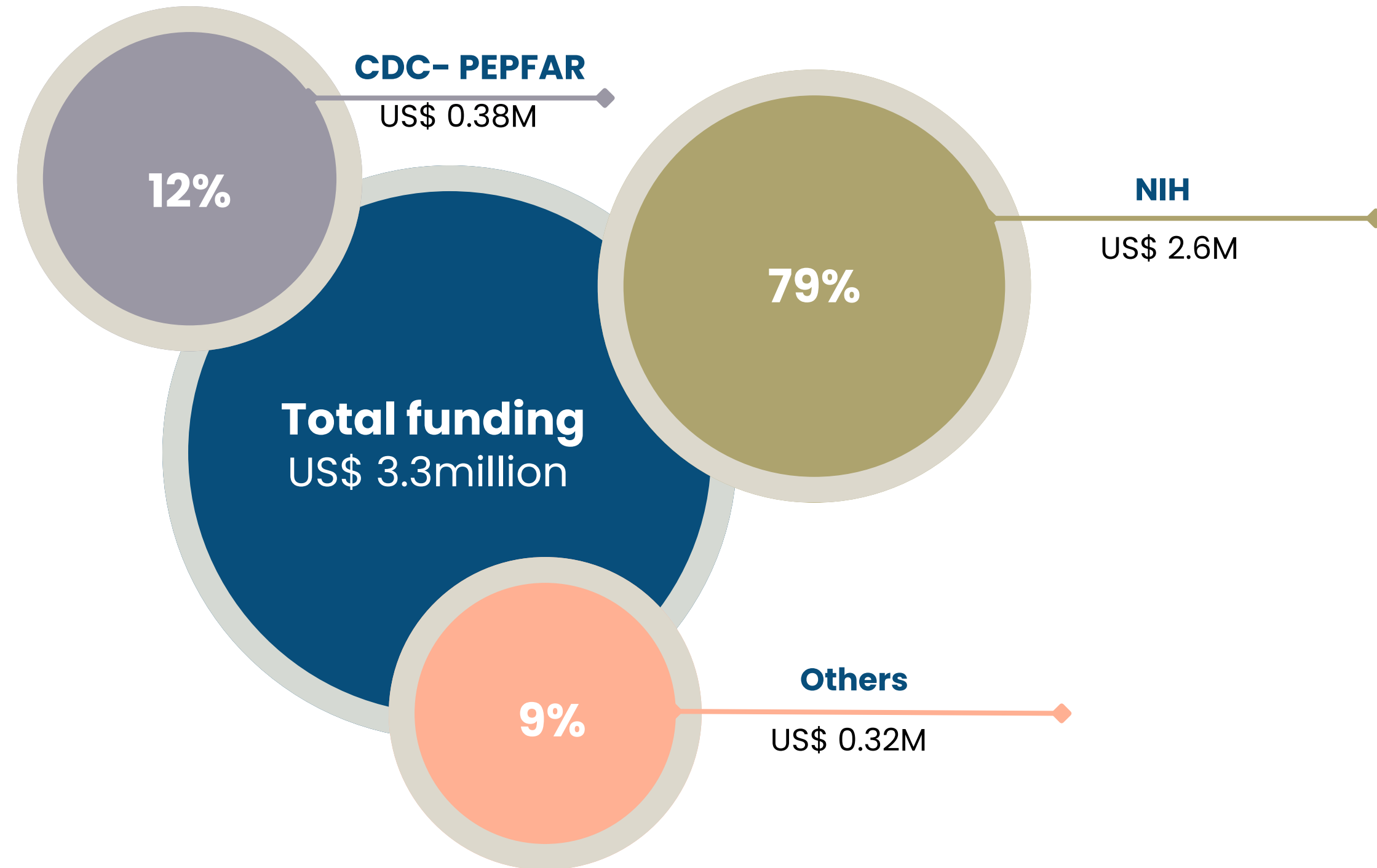
- Successfully enhanced endpoint security by deploying Windows Hello for Business across staff devices, transitioning from password-based authentication to more secure, user-friendly biometric and PIN-based access.
- Strengthened organizational device management through the migration to Microsoft Intune, enabling centralized control, consistent policy enforcement, and improved compliance across Android and iOS platforms.
- Improved communication reliability and system security by upgrading the Microsoft Exchange environment, resolving compatibility issues and ensuring stable, uninterrupted email services.
- Advanced identity and access management systems through the implementation of SATOSA, enabling secure, compliant, and seamless access to research platforms while meeting international security standards.

RHSP Financial performance

Despite the funding uncertainties faced by the program, the RHSP Finance Team remained steadfast in upholding the highest standards of transparency, accountability, and financial integrity across all operations. Through prudent financial planning, strengthened internal controls, and continuous engagement with donors and partners, the team ensured that resources were efficiently allocated to sustain critical research and programmatic activities.

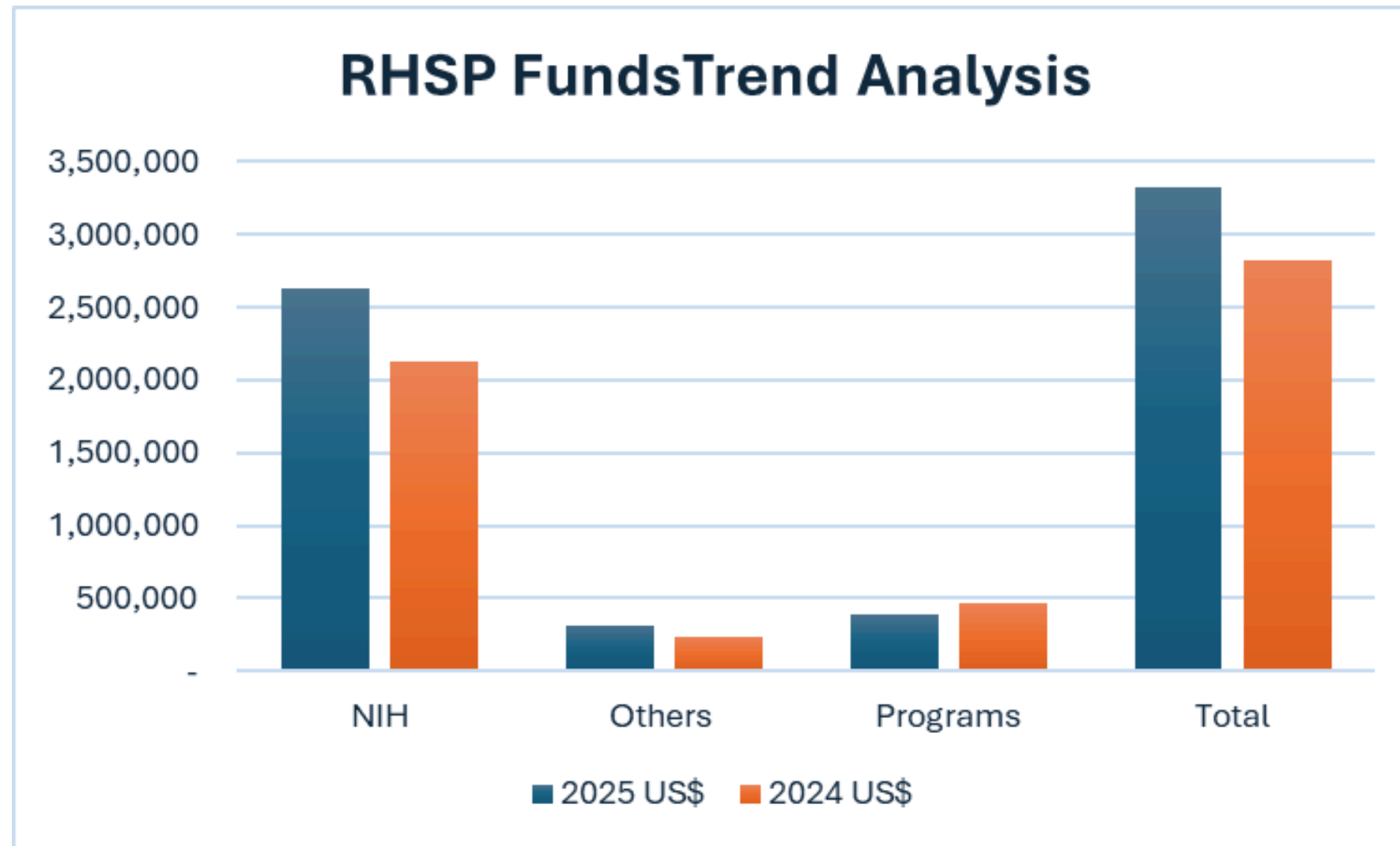
For the Financial Year October 2024 to September 2025, the program recorded an increase in total funding to approximately US\$3.3 million. This growth reflects continued donor confidence in RHSP's ability to deliver high-impact research, even within a constrained global funding environment.

The increase also underscores the program's resilience and its strategic efforts to diversify funding streams, optimize resource utilization, and align financial management with evolving research priorities.



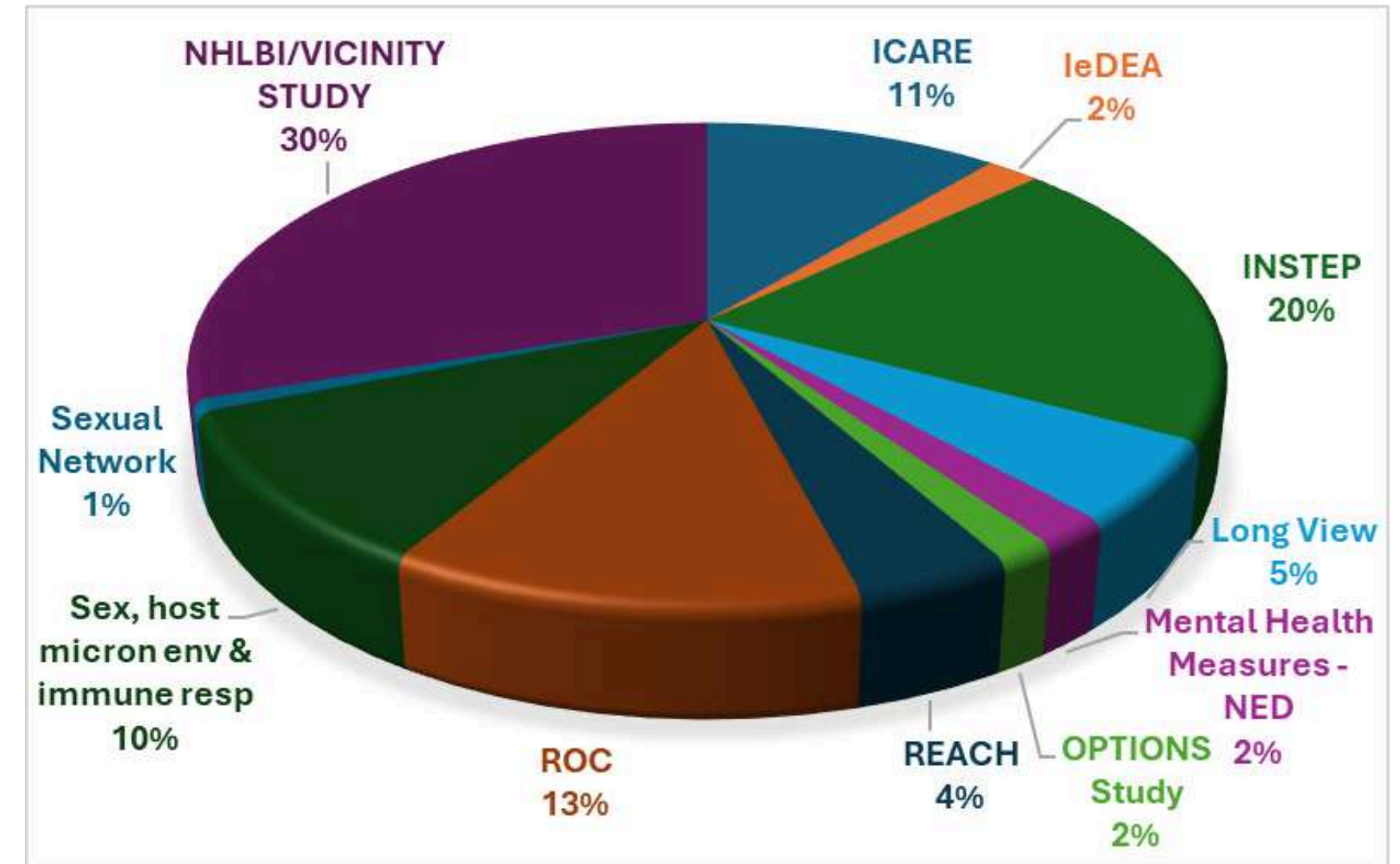
RHSP Finance

The increment in funding is attributed to the diversifying of the Grants portfolio and continued meaningful impact of our programs and research initiatives has strengthened the confidence and trust of our collaborators, resulting in sustained and enhanced financial support.



As per the chart above the grant Income from Program has reduced by 18% from US\$0.46M to US\$ 0.38M. This was due to the reduction in funding by CDC. The reduction has been netted off by increment in the Non-NIH funding which recorded a 35% increment from US\$0.22M to US\$ 0.3M. NIH stands out as the major funder with an increment of 24% from US\$2.1M to US\$ 2.6M.

NIH Revenue Distribution per Study



Key achievements during the year

During the year management and finance carried out an institutional External audit for the period ending 30th September 2024 and a non-qualified opinion was issued as per the condensed financial statements below.

RHSP Financial Report

RAKAI HEALTH SCIENCES PROGRAM (RHSP)

**REPORT OF THE DIRECTORS
FOR THE YEAR ENDED 30 SEPTEMBER 2024**

The Directors submit their report together with the audited financial statements for the year ended 30 September 2024 which disclose the state of affairs of Rakai Health Sciences Program (RHSP) ("the Organisation").

1) Incorporation

The Organisation was incorporated under the Companies Act on 19 August 2004 as an organisation limited by guarantee and having no share capital.

2) Principal activities

Rakai Health Sciences Program (RHSP) does both research and service delivery. Service delivery encompasses both prevention and clinical focusing on Circumcision, Prevention of Mother To Child Transmission of HIV (PMTCT), Counselling, Health education, HIV care, mobile Rakai Community Cohort Study (RCCS) and Sexually Transmitted Diseases (STD). The research arm conducts population-based research on HIV, other infectious diseases, and reproductive health.

3) Financial results

	30 September 2024 USD	30 September 2023 USD
Income	2,820,731	2,178,680
Expenditure	(3,453,792)	(2,194,259)
Deficit for the year	(633,061)	(15,579)

4) Directors

The Directors who served during this year are set on Page 3. There are no new directors appointed in the year ended 30 September 2024

5) Independent Auditor

Deloitte & Touche, Certified Public Accountant of Uganda was appointed during the year in accordance with section 167 (2) of the Companies Act, Cap. 106 of the laws of Uganda.

6) Approval of financial statements

The financial statements were approved at a meeting of Directors held on ...10...December.....2025.

BY ORDER OF THE BOARD

Secretary to the Board
Kampala

10 December 2025



RAKAI HEALTH SCIENCES PROGRAM (RHSP)

**STATEMENT OF DIRECTORS' RESPONSIBILITIES
FOR THE YEAR ENDED 30 SEPTEMBER 2024**

The Directors are responsible for the preparation and fair presentation of the financial statements of Rakai Health Sciences Program (RHSP) set out on pages 9 to 25 which comprise the statement of financial position as at 30 September 2024, and the statement of income and expenditure, changes in accumulated fund and cash flows for the year then ended, and a summary of material accounting policy information and other explanatory notes, in accordance with RHSP accounting policies, and for such internal control as the Directors determine is necessary to enable the preparation of financial statements that are free from material misstatement whether due to fraud or error.

The Directors' responsibility includes designing, implementing and maintaining internal control relevant to the preparation and fair presentation of these financial statements that are free from material misstatement, whether due to fraud or error, selecting and applying appropriate accounting policies, and making accounting estimates that are reasonable in the circumstances. They are also responsible for safeguarding the assets of the Organization.

The Directors are required to prepare financial statements for each financial year, which give a true and fair view of the state of affairs as at the end of the financial year and the operating results of the Organisation for that year. It also requires the Directors to ensure the Organisation keeps proper accounting records, which disclose with reasonable accuracy the financial position of the Organisation.

The Directors accept responsibility for the annual financial statements, which have been prepared using appropriate accounting policies supported by reasonable and prudent judgments and estimates, in conformity with RHSP's accounting policies. The Directors are of the opinion that the financial statements give a true and fair view of the state of the financial affairs of the Organisation and its operating results.

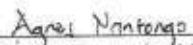
The Directors further accept the responsibility for the maintenance of accounting records, which may be relied upon in preparation of financial statements, as well as adequate systems of internal financial control.

The Directors have made an assessment of the Organisation's ability to continue as a going concern and have no reason to believe the Organisation will not be a going concern for at least the next twelve months from the date of this statement.

Approval of the financial statements

The financial statements which appear on page 9 to 25 were approved by the Board of Directors on.....10 December...2025 and were signed on its behalf by:


Executive Director
10 December 2025


Director Finance and Administration
10 December 2025

Deloitte.

Deloitte & Touche
Certified Public Accountant of Uganda
ICPAU Registration No: AF0001
3rd Floor, Rwenzori House
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Kampala, Uganda
Tel: +256 (417) 701 000
+256 (323) 202 100
Fax: +256 (414) 343 887
Email: admin@deloitte.co.ug
www.deloitte.com

**INDEPENDENT AUDITORS' REPORT
TO THE DIRECTORS OF RAKAI HEALTH SCIENCES PROGRAM**

Opinion

We have audited the accompanying financial statements of Rakai Health Sciences Program (RHSP), set out on pages 9 to 25, which comprise the statement of financial position as at 30 September 2024, the statement of income and expenditure, statement of changes in the accumulated fund and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of material accounting policy information.

In our opinion the accompanying financial statements give a true and fair view of the state of financial affairs of Rakai Health Sciences Program as at 30 September 2024 and of its financial performance and cash flows for the year then ended in accordance with RHSP accounting policies.

Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibility under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Organisation in accordance with the Institute of Certified Public Accountants of Uganda Code of ethics (ICPAU Code of Ethics), which is consistent with the International Ethics Standards Board for Accountants Code of Ethics for Professional Accountants, together with other ethical requirements that are relevant to our audit of the financial statements in Uganda, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of Matter - Basis of Accounting

Without modifying our opinion, we draw attention to the Note 2 which describes the basis of accounting. The financial statements are prepared to provide information to Rakai Health Sciences Program and its donors. As a result, the financial statements may not be suitable for another purpose. Our opinion is not modified with respect to this matter.

Other Information

The Directors are responsible for the other information, which comprises the "Report of Directors" and and "Appendices". The other information does not include the financial statements and our auditor's report thereon.



Practising Accountants: A. N. Murya* F. Otwiri* P. Suli J. Mburu*
*Karyan
Associate of Deloitte Africa, a Member of Deloitte Touche Tohmatsu Limited
The firm is licensed and regulated by Institute of Certified Public Accountants of Uganda

Finance

**INDEPENDENT AUDITORS' REPORT
TO THE DIRECTORS OF RAKAI HEALTH SCIENCES PROGRAM (CONTINUED)**

Other Information (Continued)

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements, or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of Directors for the Financial Statements

The Directors are responsible for the preparation of financial statements that give a true and fair view in accordance with RHSP's accounting policies, and in the manner required by the and for such internal control as the Directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Directors are responsible for assessing the Organisation's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Organisation or to cease operations, or has no realistic alternative but to do so. The Directors are responsible for overseeing the Organisation's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Organisation's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Directors.

**INDEPENDENT AUDITORS' REPORT
TO THE DIRECTORS OF RAKAI HEALTH SCIENCES PROGRAM (CONTINUED)**

Auditor's Responsibilities for the Audit of the Financial Statements (Continued)

- Conclude on the appropriateness of the Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Organisation's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Organisation to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the Directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

The Engagement Director responsible for the audit resulting in this independent auditor's report is CPA John Mbure Practice Number P0587.

Deloitte Touche

Certified Public Accountant of Uganda

Kampala


20 January 2025

JM

**John Mbure
Associate Director**

List of Funds received for the period ending 30th Sept 2025

Funder	Study	Amount Received (USD)
NIH	ICARE	290,066
NIH	leDEA	52,469
NIH	INSTEP	521,599
NIH	Long View	144,273
NIH	Mental Health Measures - NED	50,002
NIH	OPTIONS Study	40,000
NIH	REACH	110,158
NIH	ROC	331,231
NIH	Sex, host micron env & immune resp	275,131
NIH	Sexual Network	20,769
NIH	NHLBI/VICINITY STUDY	793,550
NON NIH	CDRF GLOBAL STUDY	89,386
NON NIH	DREAMS KAROLINSKS INST	7,970
NON NIH	NOVO-01 PILOT	26,372
NON NIH	ORAL HEALTH	60,755
NON NIH	PILOT CLIMATE CHANGE	40,000
NON NIH	SEROMARV	26,750
NON NIH	Africure	55,415
NON NIH	Joint Clinical Research Centre	750
CDC	IDI-COE	219,284
CDC	IDI-CHPIE	162,976
TOTAL		3,318,906



RHISP

SCENES FROM 2025

SCIENTIFIC PRESENTATIONS



RHSP presence at the IAS 2025 Conference in Kigali

From July 13–18, 2025, RHSP proudly joined global leaders at the International AIDS Society (IAS) Conference in Kigali, Rwanda—a landmark gathering of nearly 4,000 in-person participants and thousands more online.

Eleven scientists and students from RHSP and partner institutions presented seven abstracts, showcasing Uganda's leadership in HIV prevention, treatment, and community-driven care. Their contributions highlighted innovations in long-acting PrEP, HIV self-testing, maternal triple elimination strategies, and equity-centered approaches to epidemic control.

Beyond scientific presentations, RHSP's presence indicated the power of community engagement and local leadership in shaping global HIV dialogue. The Kigali Declaration, launched during the conference, reaffirmed solidarity and commitment to sustaining HIV gains amid funding challenges.

RHSP at CROI 2025

RHSP scientists presented groundbreaking research at the Conference on Retroviruses and Opportunistic Infections (CROI) 2025 in San Francisco.

Their work highlighted:

- HIV Care Gaps: Evidence of challenges in linking viremic individuals to sustained treatment.
- Clinic Switching & Viral Rebound: Findings across six African countries underscoring the need for continuity of care.
- Drug Resistance Trends: Monitoring dolutegravir rollout in Uganda to inform ART program adjustments.
- Prevention Strategies: Studies on HIV incidence among high-risk male populations and the impact of partner notification services on PrEP uptake.

Impact: These contributions reinforced RHSP's role as a leader in HIV implementation science, strengthened global collaborations, and provided actionable evidence to improve prevention and treatment strategies in Uganda and beyond.



RHSP participates at the SANTHE 2025 meeting

RHSP was in attendance at the SANTHE 2025 Annual Scientific Meeting in Kigali, where our team contributed to shaping the regional research agenda on HIV and related health challenges.

The meeting brought together scientists from across Africa to exchange findings, strengthen collaborations, and advance strategies for community-centered care.

Dr. Edward Kankaka's presentation highlighted RHSP's work on improving HIV care engagement and integrating mental health into community programs.

His contribution emphasized the importance of tailoring interventions to local realities, ensuring that scientific advances translate into accessible and culturally relevant solutions.

Other conferences and trainings conducted

The 12th annual ANREC Conference, organized by Uganda National Council for Science and Technology (UNCST) was held on October 21 – 22, 2025 and RHSP was represented by its research team members (Prof. Nelson Sewankambo, Dr. Robert Ssekubugu, Mr. John Bosco Wasswa, and Dr. Fred Nalugoda) who actively participated and contributed to the discussions.

RHSP held a hands-on training on our Human Resource Information System (HRIS) at the RHSP office premises, with full staff participation across departments. This session strengthened our collective capacity to manage data efficiently, streamline HR processes, and support our growing team with precision and care.

Empowering staff with the right tools is key to sustaining excellence and we're proud to invest in systems that enhance both performance and people.

On 14th October 2025, RHSP convened an IN-STEP PrEP sensitization session at the RHSP head offices in Kalisizo, bringing together twenty five (25) health workers from surrounding health facilities to strengthen referral pathways and ensure smooth continuity of care for our study participants.

Capacity Building & Internship Program:



Nurturing the Next Generation of Global Health Leaders

At the heart of the Rakai Health Sciences Program (RHSP) is a commitment to growing people alongside evidence. In 2025, RHSP continued to serve as a dynamic hub for mentorship, skills development, and professional growth—welcoming a diverse cohort of interns from leading universities in Uganda and abroad and equipping them with the tools to become the next generation of health leaders.

A Diverse and Multidisciplinary Cohort

The 2025 internship cohort brought together students from Makerere University, Makerere University Business School, Uganda Martyrs University, Kampala International University, Columbia University, Princeton University, and Western University. Representing disciplines such as statistics, medicine, public health, social sciences, and business, the interns reflected RHSP's belief that impactful health research and service delivery thrive at the intersection of multiple fields.

Learning by Doing: From Clinics to Communities

Interns were fully embedded within RHSP's research, clinical, and community programs. They supported research teams through data collection and analysis, received hands-on training in REDCap and data management systems, and contributed to clinical services while learning the principles of patient-centered care.

Beyond institutional settings, interns participated in field visits to fishing communities and other hard-to-reach populations, gaining firsthand insight into how health, livelihoods, mobility, and resilience intersect in everyday life. Many also contributed to the Rakai Orphans in Community (ROC) project, helping explore long-term trends in orphanhood and adolescent behavioral outcomes—an experience that grounded data in lived realities.

Skills, Mentorship, and Meaningful Connections

Throughout the program, interns gained practical skills in map reading, data systems, community engagement, and research ethics. Just as importantly, they benefited from close mentorship and a supportive learning environment that encouraged curiosity, initiative, and professional growth.

"It was highly valuable to me as a statistics student. We gained practical skills in map reading and REDCap, and were encouraged to explore areas we wanted to learn more about."

— Richard Mugeru, Makerere University

"From Kalisizo to Kampala, it's been a privilege to explore this beautiful country and learn from the communities we serve."

— Subba Demby, Columbia University

Building Capacity for the Future

RHSP's internship program is more than a training opportunity—it is a strategic investment in sustainable health systems. By fostering collaboration across institutions, countries, and disciplines, the program strengthens both local and global capacity and nurtures professionals grounded in technical excellence and community-centered values. As RHSP advances research and care in HIV, non-communicable diseases, mental health, and beyond, its internship program remains a cornerstone of its mission: building capacity through mentorship, partnership, and meaningful engagement with the communities at the center of its work.



End of year party 2025



In pictures: RHSP staff celebrated their 2025 end of year party with longstanding community research participants who have been part of 21 rounds of the Rakai Community Cohort Study (RCCS).

The celebrations included a guided tour of the RHSP premises, shared meals, and memorable picture moments.

RHSP TALENT SHOW



RHSP was filled with excitement on 10 July 2025 as over 40 staff members lit up the stage at the 2025 Talent Show, celebrating creativity, teamwork, and in-house brilliance 🎤🎸🎵 From music and dance to poetry, comedy, fashion, and games, the energy was electric and the support unforgettable. With prizes, certificates, and plenty of cheer, the day was a true reflection of the joy, unity, and talent that define the RHSP community.

RHSP CATHOLIC COMMUNITY



On the left: On 11th May 2025, RHSP's Catholic community joined hands with the Church in Kalisizo, Kyotera for the annual Caritas event—an uplifting moment of solidarity and compassion. Staff members contributed gift hampers filled with food, clothing, and financial support, reflecting a shared commitment to mutual care and dignity. The Church acknowledged RHSP's continued presence—not only through scientific collaboration but also through meaningful gestures that affirm the value of every individual in the community.



On the right: The catholic community had a change in leadership.





Betty Nantume: Her 30-year journey of commitment and resilience

From the shores of Ssese Island, where she was born as the second of eleven children, Sister Betty Nantume's life has been defined by humility, resilience, and devotion. Trained as a nurse and midwife, she served at Villa Maria, Nsambya, and Kitovu hospitals, where her compassion touched countless lives. When Uganda faced the growing HIV crisis, she joined mobile clinics, bringing care and hope to communities in need.

In 1994, Sister Betty was recruited into the Rakai Project's landmark STD trial under Professor David Serwadda. This marked the beginning of a new chapter one that would see her transition from bedside nursing to pioneering field research. She quickly became a trusted leader in the Rakai Community Cohort Study (RCCS), guiding teams through groundbreaking studies such as the Circumcision Trial and the Bacterial Vaginosis study.

Her leadership was marked by integrity, adaptability, and a deep commitment to community trust. Her journey was filled with memorable moments. On one field visit, she delivered a baby, forging a lifelong bond with the family. She faced skepticism from communities with patience and compassion, gradually building bridges of trust. Her determination was evident in the way she learned to ride motorcycles to reach remote villages, ensuring that no community was left behind. To Sister Betty, RHSP was more than a workplace—it was “a father” that gave her education, friendships, and confidence.

Now retired, Sister Betty devotes her time to farming, her Catholic Charismatic Renewal community, and caring for her children. She continues to inspire through her faith and family life. Her advice to young professionals remains timeless: “Work from your heart. Don't just chase money—serve with love.” As she steps into retirement, Sister Betty hopes to be remembered as someone who loved people and made service meaningful through compassion. Her decades of devotion transformed lives, strengthened RHSP's mission, and left a legacy of love and excellence that will inspire generations to come.

In pictures: Sister Betty's farewell mass attended by RHSP leadership, sister Betty's family and RHSP colleagues to celebrate her contribution to public health.



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Epstein-Shuman A, Zhu X, Hunt JH, Fernandez RE, Rozek GM, Redd AD, Gotthold ZA, Quiros G, Galiwango RM, Kigozi G, Caturegli P, Ssekubugu R, Grabowski MK, Chang LW, Reynolds SJ, Laeyendecker O; Rakai Health Science Program. Autoantibodies to interferon alpha, nuclear antigens, cardiolipin, and beta 2 glycoprotein 1 in a Ugandan cohort and their relation to SARS-CoV-2 infection. *J Infect Public Health*. 2025 Jun;18(6):102722. doi: 10.1016/j.jiph.2025.102722. Epub 2025 Mar 4. PMID: 40086141.

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Mumby MJ, Prodger JL, Hackman J, Saraf S, Zhu X, Ferreira RC, Tomusange S, Jamiru S, Anok A, Kityamuweesi T, Buule P, Fink C, Edgar CR, Trothen SM, Dekaban GA, Brown EE, Capoferri AA, Baker OR, Klock E, Miller JC, Kirby C, Lynch B, Tobian AAR, Poon AFY, Quinn TC, Galiwango RM, Reynolds SJ, Redd AD, Dikeakos JD. Association between HIV-1 Nef-mediated MHC-I downregulation and the maintenance of the replication-competent latent viral reservoir in individuals with virally suppressed HIV-1 in Uganda: an exploratory cohort study. *Lancet Microbe*. 2025 May;6(5):101018. doi: 10.1016/j.lanmic.2024.101018. Epub 2025 Mar 12. PMID: 40088911; PMCID: PMC12066219.

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Sophia Le, William Checkley, Lauren Dudley, Joseph Ssuuna, Anthony Ndyanabo, Engineer Bainomugisha, Joel Ssematimba, Richard Sserunjogi, Deo Okedi, Deo Okure, Joseph Kagaayi, Larry Chang, Kirsten Koehler, Laura Nicolaou, Calibration of Low-Cost Sensor Data for Ambient PM2.5 Monitoring Across Urban and Rural Settings in South Central Uganda, *Atmospheric Pollution Research*, 2025, 102580, ISSN 1309-1042, <https://doi.org/10.1016/j.apr.2025.102580> (<https://www.sciencedirect.com/science/article/pii/S1309104225001825>)

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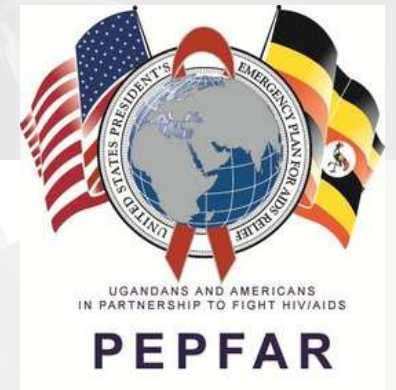
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