

**SOCIAL  
INNOVATION  
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INITIATIVE**



# SOCIAL, EMOTIONAL, AND ECONOMIC EMPOWERMENT THROUGH KNOWLEDGE OF GROUP SUPPORT PSYCHOTHERAPY (SEEK-GSP) PROJECT, UGANDA

**CONTINENT**

Africa

**COUNTRY**

Uganda

**HEALTH FOCUS**

Mental Health, HIV/AIDS

**AREAS OF INTEREST**

Service Delivery

**HEALTH SYSTEM FOCUS**

Health Promotion, Service Delivery

# SOCIAL, EMOTIONAL, AND ECONOMIC EMPOWERMENT THROUGH KNOWLEDGE OF GROUP SUPPORT PSYCHOTHERAPY (SEEK-GSP) PROJECT, UGANDA

Using a culturally sensitive group support psychotherapeutic (GSP) intervention as first-line treatment for depression among people living with HIV/AIDS in Uganda

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# ABBREVIATIONS

|               |                                                               |
|---------------|---------------------------------------------------------------|
| <b>AIDS</b>   | Acquired Immunodeficiency Syndrome                            |
| <b>CHW</b>    | Community Health Worker                                       |
| <b>COVID</b>  | Coronavirus Disease                                           |
| <b>GHE</b>    | Group HIV Education                                           |
| <b>GSP</b>    | Group Support Psychotherapy                                   |
| <b>HIV</b>    | Human Immunodeficiency Virus                                  |
| <b>MOH</b>    | Ministry of Health                                            |
| <b>PLHIV</b>  | People Living with HIV                                        |
| <b>SEEK</b>   | Social, Emotional, and Economic Empowerment Through Knowledge |
| <b>UNAIDS</b> | The Joint United Nations Programme on HIV/AIDS                |
| <b>WHO</b>    | World Health Organization                                     |

## CASE INTRODUCTION

The Social, Emotional, and Economic empowerment through Knowledge of Group Support Psychotherapy (SEEK-GSP) project was implemented by Makerere University in collaboration with the Ministry of Health. The project aimed at narrowing the treatment gap for depression among people living with HIV using group support psychotherapy delivered by trained lay health workers in Northern Uganda. Globally, the advent of antiretroviral therapy has led to improved quality of life for people living with HIV (Mugavero et al., 2009; Oguntibeju, 2012), reduced HIV related death (UNAIDS, 2018) and reduced new HIV infections (Bavinton et al., 2018; Cohen et al., 2016; Rodger et al., 2016). However, other HIV/AIDS-related challenges like depression still prevail. Previous studies have found that people living with HIV are two to four times more likely to suffer from depression compared to the general population (Ciesla and Roberts, 2001; Do et al., 2014; Remien et al., 2019). In Uganda, the prevalence of depression among people living with HIV/AIDS is estimated to be between 9–25% (Kinyanda et al., 2017; Nakimuli-Mpungu et al., 2011). Despite this, most HIV treatment facilities in sub-Saharan Africa including Uganda do not screen for depression among people living with HIV.

The World Health Organization recommends psychotherapy as the first line of treatment for depression. The SEEK-GSP project involves group support psychotherapy sessions to treat depression among people living with HIV/AIDS by enhancing emotional and social support networks and improving their ability to practice positive coping and income-generating skills. Lay community health workers and facility-based health staff were recruited and trained by the project team. Eight group support psychotherapy sessions were facilitated by the trained community health workers who were supervised by the facility-based health workers. Community advisory boards were formed by the community to monitor project activities and provide timely feedback to the project team. Makerere University, in

collaboration with the Ministry of Health, developed the formal and informal training sessions. The group support psychotherapy sessions were implemented in 30 health facilities in Pader, Kitgum, and Gulu districts.

These three districts are part of the Acholi sub-region, which was heavily affected by the Lord's Resistance Army (LRA) insurgency, causing decades of displacement, loss of life, breakdown of community and health infrastructure, and economic disruption. Many people lived in internally displaced persons (IDP) camps with poor sanitation, limited livelihood opportunities, and disrupted education. Studies show that trauma exposure, poverty, food insecurity, and high daily stressors persist even after resettlement in this region (Luo et al., 2022).

In terms of HIV epidemiology, antenatal clinic data show HIV-1 prevalence at approximately 10.3% in Gulu, 9.1% in Kitgum, and 4.3% in Pader in 2005. The weighted prevalence across the region was ~8.2% for these districts combined (Fabiani et al., 2007). In post-conflict transit camps in Gulu, a survey of young people (15–29 years) found HIV prevalence of 12.8% (95% CI: 9.6–16.5%) with non-consensual sexual debut, STI symptoms, and other behavioural factors strongly associated with infection (Patel et al., 2014).

People living with HIV in these districts face a double burden: the biomedical demands of HIV care and the psychological burden from conflict, trauma, displacement, and poverty. Emotional distress, depression, PTSD, social isolation and stigma are pervasive. These factors frequently reduce antiretroviral therapy (ART) adherence, complicate viral load suppression, and negatively affect overall well-being. Data from children and adolescents with HIV in Kitgum, for example, show high rates of emotional problems in those with unsuppressed viral loads—depression, anxiety, PTSD, compounded by food insecurity and transportation cost barriers (Kwesiga et al., 2025).

Within this context, group support psychotherapy is particularly relevant. Since mental health professionals are scarce in Northern Uganda, using trained lay health workers supervised by facility-based staff increases reach. Group settings help restore social networks that conflict weakens; they allow sharing of trauma experiences, building trust, reducing stigma, and fostering mutual support. The inclusion of income-generating components helps address economic stressors like poverty and food insecurity which directly impact capacity to adhere to ART and maintain mental health. Culturally, communal coping and group rituals have local resonance in Acholi communities, increasing acceptability and engagement.

The SEEK-GSP project demonstrated that task-shifting to lay community members and health workers can effectively treat depression among people living with HIV in post-conflict Northern Uganda. By improving mental health, the intervention has the potential to enhance ART adherence, support viral suppression, and contribute to broader well-being and socio-economic recovery. This experience suggests that group support psychotherapy is not only appropriate for Northern Uganda but could be scaled to other regions of Sub-Saharan Africa facing similar intersections of HIV, depression, conflict legacies, and weak health systems.

# 1. INNOVATION PROFILE AT A GLANCE

## Organisation details

|                          |                                                                                                                             |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Organisation name        | Social, Emotional, and Economic Empowerment Through Knowledge of Group Support Psychotherapy                                |
| Founding year            | 2012                                                                                                                        |
| Founder name             | Dr. Etheldreda Nakimuli-Mpungu                                                                                              |
| Founder nationality      | Ugandan                                                                                                                     |
| Organisations involved   | Makerere University College of Health Sciences, Department of Psychiatry; Ministry of Health; The AIDS Support Organization |
| Organisational structure | University (Not for profit)                                                                                                 |
| Size                     | 8                                                                                                                           |

## Innovation Value

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Beneficiaries  | People living with HIV/AIDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Key Components | <ol style="list-style-type: none"> <li>1. <b>Cultural fit and local ownership.</b> Developed in Uganda, SEEK-GSP uses local proverbs and relatable storytelling to reduce stigma and build community trust.</li> <li>2. <b>Task shifting for scalability.</b> Delivered by trained HIV care staff under supervision, it offers a scalable model for mental health in low-resource settings.</li> <li>3. <b>Beyond therapy: livelihood skills.</b> Combines therapy with income-generation skills, promoting both emotional and economic resilience.</li> <li>4. <b>Integration with HIV services.</b> Integrates mental health support within HIV clinics, improving access and reducing stigma.</li> <li>5. <b>Proven impact and policy potential.</b> Proven to improve depression, ART adherence, viral suppression, and cost-effectiveness.</li> </ol> |

## Operation Details

|                        |                    |
|------------------------|--------------------|
| Main income streams    | Grant funding      |
| Cost per person served | UGX 24,000 (USD 6) |

## Scale and Transferability

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Scope of operations | Uganda                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Local engagement    | Rooted at Makerere University and supported by Uganda's Ministry of Health and local governments, SEEK-GSP brings mental health care closer to communities. Since 2022, with PEPFAR support, it has become part of Uganda's HIV care system, enabling local clinics to provide integrated mental health support.                                                                                                                                                                        |
| Scalability         | SEEK-GSP's community-based model can be replicated wherever community health workers and facility supervision exist, ensuring quality delivery. Its proven cost-effectiveness, strong outcomes, and high adherence make it a robust model for scale-up. Through the SEEK-GSP Academy, training has reached Nigeria, Cameroon, Kenya, Ghana, Zimbabwe, Zambia, and Benin. Recognized by WHO (2022) as one of Africa's top mental-health innovations and now enhanced with AI through the |

|                |                                                                                                                                                                                                                                                          |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | Wellcome Data Prize (2025), SEEK-GSP continues to expand its regional and global impact.                                                                                                                                                                 |
| Sustainability | The existence of community health workers in every village in Uganda provides a great opportunity for sustaining the programme. With task-shifting, the model has the potential to scale up without needing a large number of mental health specialists. |

## 2. CHALLENGE

Globally, antiretroviral therapy (ART) access has expanded dramatically, tripling since 2010 (from about 7.4 million to 25 million people by 2019; UNAIDS, 2020, 2011). This has driven down new HIV infections by 47% since the 1996 peak (UNAIDS, 2018), and reduced AIDS-related deaths by 39% since 2010 (UNAIDS, 2020). ART improves quality of life (Mugavero et al., 2009; Oguntibeju, 2012), slows or prevents progression of HIV to AIDS (May et al., 2010; Violari et al., 2008), and supports viral suppression thereby reducing transmission (Bavinton et al., 2018; Cohen et al., 2016; Rodger et al., 2016). Still, in 2019, around 38 million people were living with HIV globally, with nearly 70% of infections concentrated in sub-Saharan Africa (UNAIDS, 2020).

Mental health disorders, especially depression, are now recognised as major contributors to global morbidity. Among people living with HIV (PLHIV), depression is two to four times more prevalent than in the general population (Ciesla & Roberts, 2001; Do et al., 2014; Remien et al., 2019). In sub-Saharan Africa, as many as one in three PLHIV shows symptoms of depression, and one in five has diagnosable clinical depression (Nakimuli-Mpungu et al., 2012). Estimates range from 8–32% depending on the setting (Abas et al., 2014; Bernard et al., 2017). Depression undermines HIV treatment outcomes: it is associated with poor ART adherence (Mayston et al., 2012; Meffert et al., 2019; Nakimuli-Mpungu et al., 2012); increased risk of treatment failure; development of drug resistance

(Hartzell et al., 2008; Rivera-Rivera et al., 2016); and, even when viral load is suppressed, higher mortality (Abas et al., 2014). Despite these, many HIV treatment sites do not screen for or manage depression among PLHIV.

In Uganda (HIV prevalence ~6.2%; MOH, 2019), depression among people living with HIV is estimated at 14–25% (Kinyanda et al., 2017; Nakimuli-Mpungu et al., 2011). Multiple factors contribute to this, such as HIV-related stigma, loneliness, side effects of medication, lack of social support, and food insecurity (Rivera-Rivera et al., 2016; Amiya et al., 2014; Bhatia & Munjal, 2014; Abas et al., 2014). These dynamics limit treatment adherence and quality of life, especially in rural or underserved areas.

Dr. Etheldreda Nakimuli-Mpungu, SEEK-GSP's principal investigator, was motivated to act after observing that many of the PLHIV who came to Butabika National Referral Mental Hospital had severe mental health problems. Similarly, patients in HIV clinics often went without care until crises (overt psychosis, suicidality) manifested. She saw that HIV clinics lacked integrated mental health services and that depression among the PLHIV was largely unattended despite its serious consequences (Awor & Ahumuza, 2020; WHO, 2021). These observations, together with evidence that depression was strongly associated with poor ART adherence, spurred her to develop a culturally sensitive, scalable group support psychotherapy (GSP) intervention to fill the treatment gap (Awor & Ahumuza, 2020; The Effect of Group Support Psychotherapy, 2017).

Therefore, from the innovator's perspective, seeing both the suffering of PLHIV with depression who were slipping through the cracks, and the lack of mental health care in HIV centers clearly frames the need for the intervention. It's not just statistical or epidemiological; it's a response to lived gaps in care, driven by clinical observation and evidence.

### 3. INNOVATION IN INTERVENTION

Dr. Etheldreda Nakimuli-Mpungu, a psychiatrist and senior lecturer in the Department of Psychiatry at Makerere University, and her colleagues started the Social, Emotional, and Economic Empowerment through Knowledge of Group Support Psychotherapy (SEEK-GSP) project. The project aims to narrow the treatment gap for depression among people living with HIV (PLHIV) using group support psychotherapy (GSP) delivered by trained lay health workers.

*"This project was formed after the successful development and testing of group support psychotherapy, a culturally sensitive psychological treatment that we use as a first line treatment for depression among persons living with HIV/AIDS." (Dr. Etheldreda Nakimuli-Mpungu, Principal Investigator)*

Based on the high rates of mental health disorders among the PLHIV admitted at Butabika National Referral Mental Hospital, coupled with limited mental health care services in HIV clinics in Uganda, Dr. Etheldreda saw an opportunity to address these issues.

*"We realised that patients were coming from the HIV clinics that were scattered all over the country and we realised there was no mental health care in those clinics. ...so they (patients) progressed to become severe and it is only when the person became overtly psychotic and*

*were shouting or attempting suicide that the health workers were able to notice. And the action then was to refer to Butabika Hospital. Then I realised we need to research mental health in HIV centres that are scattered around the country." (Dr. Etheldreda Nakimuli-Mpungu, Principal Investigator)*

The project team was composed of diverse healthcare professionals, including a psychiatric clinical officer, a psychiatric nurse, a social worker, and a psychologist. The project was first implemented in Northern Uganda and has also been implemented in other areas in the country, both in rural and urban settings. The project involves group support psychotherapy sessions that help treat depression among PLHIV by enhancing emotional and social support networks, the ability to practice positive coping skills, and income-generating skills.

#### 3.1 CULTURAL APPROPRIATENESS OF THE GROUP SESSIONS

The psychotherapy groups were gender-specific and facilitated by lay health workers of the same gender because problems faced by men and women differ. This enhances active participation and promotes problem-sharing within the groups. These gender-specific groups may explain the high level of participant engagement, with 80% completing all the eight GSP sessions.

#### 3.2 TASK-SHIFTING

Task-shifting approaches, through the use of non-specialist health workers in health facilities and community settings to deliver mental health services, have been recommended by the World Health Organization (WHO, 2008) and mental health researchers (Patel et al., 2011). Standardisation and simplifying these task-shifting approaches ensure that non-specialist health workers effectively offer these services. Every village in Uganda has lay health workers or village health team (VHT) members who offer health

promotion and education activities, mobilise communities for utilisation of health services, and distribute health commodities in the community, among others (MOH, 2010). Group support psychotherapy sessions are facilitated by trained lay health workers, with support from trained healthcare workers at the health facilities.

### **3.2 TRAINING IN INCOME-GENERATING SKILLS**

Poverty and food insecurity in households of people living with HIV (PLHIV) has been reported to increase the likelihood of depression (Tsai et al., 2012). As a result, there are recommended interventions aimed at improving their livelihoods. The SEEK-GSP project enhances the livelihoods of PLHIV in the Northern Ugandan districts by engaging them in income-generating activities, where participants form livelihood groups and/or do business activities such as planting food crops and then selling the produce or baked goods. In this way they are able to attain improved financial independence and access basic needs unlike before.

## **4. IMPLEMENTATION**

### **4.1 INNOVATION IN IMPLEMENTATION**

The SEEK-GSP project was first implemented in Kitgum District and then scaled to two other districts in Northern Uganda namely, Gulu and Pader. These districts experienced a civil war which lasted for two decades (1987-2007) and was characterised by murders, rape, loss of lives and property, and the breakdown of the healthcare system. This instability led to high poverty rates and risky behaviors, including excessive alcohol consumption and sexual violence, making the population highly vulnerable to depression and HIV/AIDS (Delavande and Cordeiro, 2012).

Lay health workers or village health teams (VHTs) play an important role in providing

healthcare services to the population, as they are the first level of contact for healthcare delivery in communities in Uganda (MOH, 2010). These lay health workers are affiliated with public health facilities.

The SEEK-GSP intervention does not require ongoing input from expert mental health practitioners. Instead, trained lay community health workers (CHWs) identify and treat individuals with depression through village-based weekly GSP sessions under the supervision of trained health workers. This empowers local communities to take control of their own mental health needs. The GSP training program, consisting of both formal and informal training sessions, was developed by Makerere University in collaboration with the Ministry of Health.

Community advisory boards were formed to monitor community satisfaction with project operation activities and provide feedback to the project team in real time on any conflicts or dissatisfaction arising from project implementation activities. This ensures retention of participants in the project.

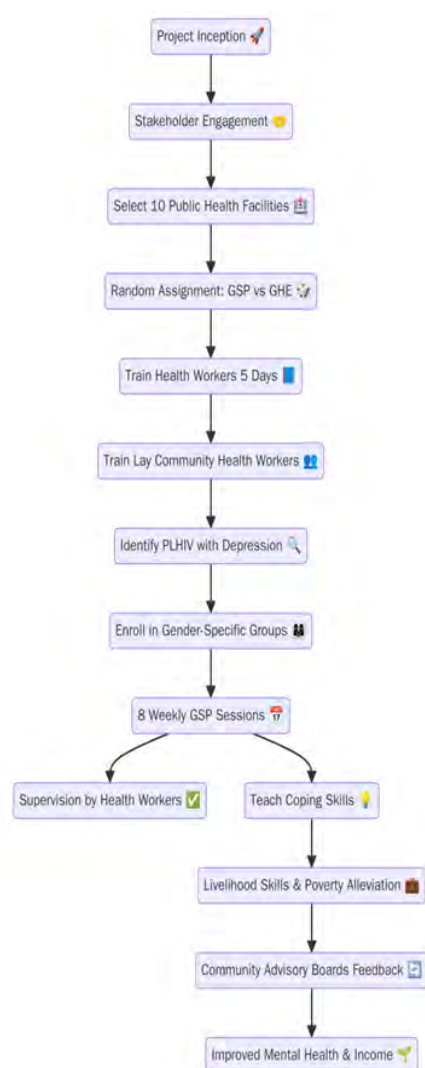
### **4.2 RECRUITMENT AND SELECTION**

#### **Stakeholder engagements**

The project team conducted stakeholder meetings with the district health officials, health facility managers, religious leaders, and community leaders in the participating districts. These were conducted to explain the objectives, benefits, and procedures of the project to the stakeholders.

Through engagements with district health officials and health facility managers in the initial three districts, ten public health facilities that were offering HIV care and treatment services were selected. The eligible health facilities were randomly assigned (1:1) to have their lay health workers trained in the delivery of GSP (intervention) or group health education (GHE) (control) to people living with HIV with mild to moderate depression.

## Training of trainers and lay community health workers



The managers of the selected health facilities nominated health workers and lay community volunteers to participate in the project. These selected individuals showed interest in learning an additional skill, were respected in the community, and were willing to commit at least two hours of their time each week to lead the GSP sessions. The project team trained the health workers for five days on the following topics: introduction to the GSP model, introduction to depression and HIV/AIDS, basic counselling skills and effective coping strategies, basic livelihood skills (enterprise selection, basic financial skills, and resource mobilisation) required to overcome poverty, and self-care strategies. The

trained health workers then provided health education to their clients at the HIV clinics and also identified persons with depression, who were then enrolled to gender-specific groups.

On the other hand, the trained health workers also trained the lay community health workers (CHWs) connected to their health facilities. The CHWs were then able to identify the PLHIV with depression and support them using the weekly GSP sessions.

## Evolution of training after COVID-19

The COVID-19 pandemic created both challenges and opportunities for the SEEK-GSP program. Before the pandemic, the training of health workers and CHWs were primarily conducted through five-day in-person workshops that emphasised classroom teaching and group discussions. However, movement restrictions, social distancing measures, and disruptions to health services required the project to rethink its training model to ensure continuity, scalability, and safety.

In response, the team developed the SEEK-GSP Academy, a blended learning platform designed to make training more flexible and accessible. The Academy provides a structured curriculum that combines online modules with practical demonstrations, enabling trainees to build their knowledge and skills even in contexts where large gatherings were restricted.

The new training approach now consists of three main components:

1. Online learning through the SEEK-GSP Academy

Trainees accessed foundational content on depression, HIV care, group support psychotherapy (GSP), and facilitation skills via digital modules. This enabled learners to progress at their own pace

while ensuring standardised knowledge delivery across districts and facilities.

## 2. Facility-based three-day practical demonstrations

After completing online coursework, trainees attended an intensive three-day in-person workshop. These sessions focused on hands-on practice of group facilitation, role plays, supervision techniques, and demonstration of GSP sessions. This practical component ensured that trainees can confidently translate theory into practice.

## 3. Eight-week practicum

Following the practical demonstrations, trainees participated in an eight-week practicum, during which they conducted actual GSP sessions with supervision. They received structured feedback from supervisors using checklists and evaluation tools to ensure fidelity to the intervention model. This practicum bridged the gap between training and real-world application, helping trainees refine their skills while delivering services to the community.

Through this blended model, the SEEK-GSP program has strengthened its training capacity, reduced dependency on prolonged centralised workshops, and expanded its reach to more health workers and communities. The evolution also ensured that training has been made resilient to future disruptions, scalable to new regions, and sustainable in the long term.

## Group support psychotherapy (GSP) sessions

The GSP was delivered in eight sessions, one per week lasting for about 2–3 hours. Participants were grouped into gender-specific groups of 10–12 participants with a facilitator of the same gender.

The first session was introductory—it addressed issues relevant to group process ground rules and participants' expectations. At the end of the session, the participants were paired and asked to engage with each other. They were required to share their experiences in the next session.

The second session was about psychoeducation, where participants were educated about depression, how it is related to HIV and how it could be treated. At the end of the second session, participants were asked to educate any member in the community about what they have learned.

Sessions 3–4 were focused on problem sharing. The participants shared their problems in the group and feedback was provided by the other group members. These sessions were supervised by the trained health workers who assessed the lay health workers' basic counselling skills using a supervision checklist.

*“It is after those two sessions when people have expressed their problems, (and) they have released their anger, their pain, that you see people change physically.”* (Dr. Etheldreda Nakimuli-Mpungu, Principal Investigator)

In sessions 5 and 6, the participants were taught about coping skills. At the end of this session participants were asked to practice what they have learned in their respective communities. The last two sessions (7–8) focused on helping participants acquire basic livelihood skills that would enable them to identify income-generating activities and improve their income levels. These two sessions were requested by the community:

*“They told us, okay doctor, you want to help us with depression but don't you see the poverty in which we live. We are so poor and even that makes us depressed. They said if you want people to come to this intervention for depression, then you must also teach us how to*

*come out of poverty (...) we thought about teaching them skills and they come out with their own ideas and they have been able to improve their income.”* (Dr. Etheldreda Nakimuli-Mpungu, Principal Investigator)

### Monitoring and evaluation

Monitoring and evaluation were integral to the project. Health workers supervised CHWs during the sessions using structured checklists to assess their facilitation and counseling skills. In addition, community advisory boards were established to capture real-time feedback from participants and communities, helping to resolve conflicts, maintain satisfaction, and ensure high levels of engagement. The project team also measured key outcomes, including participant retention across all eight sessions, remission of depression symptoms, adherence to antiretroviral therapy (ART), and viral suppression through clinical follow-up. Beyond health outcomes, improvements in participants’ ability to engage in income-generating activities were also tracked as indicators of social and economic recovery.

## 4.3 ORGANISATION AND PEOPLE

Developed by Dr. Etheldreda, SEEK-GSP has become a culturally appropriate psychological treatment used as a first line treatment for depression among PLHIV. Furthermore, a project team including a psychiatric clinical officer, psychiatric nurse, social worker and psychologist were crucial to this project’s success. The advisory committee also ensured that activities were being implemented in a coordinated way.

Initially, the project was implemented in Kitgum District, but it was later extended to other districts in Northern Uganda through funding from Grand Challenges Canada. Through this work, Dr. Etheldreda earned herself the 2016 Elsevier Foundation Award and a Presidential

National Independence Medal of Honor in 2016. She was also recognised among the 100 most Influential & Inspiring Women of 2020 by the British Broadcasting Corporation (BBC).

## 4.4 COST CONSIDERATIONS

This project was made possible through grant funding from Grand Challenges Canada and the MQ Mental Health Fellowship Award. In terms of participant expenses, every participant received light refreshments and a transport facilitation allowance equivalent to USD 6.

To promote attendance and retention, each participant received small incentives at the end of the treatment. All participants received UGX 8,000 (USD 2.16) to defray transportation costs. The group facilitators received UGX 80,000 (USD 21.62) for compensation. These measures, combined with community involvement and ongoing supervision, contributed to the success of SEEK-GSP as an intervention for both mental health and livelihood.

## 5. OUTPUTS AND OUTCOMES

### 5.1 IMPACT ON HEALTH DELIVERY

*“This evaluation we have done makes us confident that group support psychotherapy treats depression in persons with HIV. It will not only treat depression but it will also improve their adherence and viral suppression, thus improving their overall outcomes and contributing to the prevention of the spread of the virus.”* (Dr. Etheldreda Nakimuli-Mpungu, Principal Investigator)

Dr. Etheldreda Nakimuli-Mpungu and her colleagues evaluated their project using the most rigorous scientific study designs. The project team conducted a 109-person pilot randomised clinical trial (RCT) that

evaluated group support psychotherapy for depression treatment in people with HIV/AIDS in Northern Uganda. The findings showed that six months after the end of treatment, participants in the intervention (GSP) arm had lower mean depression scores compared to those in the control (group HIV education, GHE) arm (Nakimuli-Mpungu et al., 2015). Hence, GSP was more effective than the control intervention in reducing depression symptoms and increasing functioning levels.

The project team also conducted a 1,140-person cluster randomised clinical trial which evaluated the effectiveness and cost-effectiveness of Group Support Psychotherapy delivered by trained lay health workers for depression treatment among PLHIV (Nakimuli-Mpungu et al., 2020). This evaluation included 30 health facilities which offer HIV care and treatment. These facilities were randomly allocated to the trained lay health workers who delivered GSP sessions in the intervention arm or GHE sessions in the control arm. Following the eight-week programme, with data from almost 1,500 participants, the researchers were able to assess the effectiveness of the intervention. Six months after the intervention, only 2 (<1%) participants in the GSP arm were diagnosed with major depression compared to 160 (28%) in the GHE arm. This indicated that GSP was effective in the treatment of mild to moderate depression, with almost everyone achieving remission within six months. In addition, the participants remained free from symptoms of depression up to 12 months later. Interestingly, a greater effect was observed among males than females. The group support sessions also reduced symptoms of post-traumatic stress, alcohol use, HIV-related stigma, and improved social support and self-esteem. The researchers also found that those who attended the sessions showed clinical health improvements, as well as mental health improvements, with improved

adherence to anti-viral treatments and suppression of the HIV viral load. This means that affected individuals were less likely to transmit HIV to others.

On cost-effectiveness, the study reported an incremental cost-effectiveness ratio (ICER) of USD 13.0 per disability-adjusted life-year (DALY) averted, indicating that GSP is highly cost-effective in the Ugandan setting (Nakimuli-Mpungu et al., 2020). This finding complements the low per-participant implementation cost (e.g., around USD 6 in many sites), reinforcing that modest investments result in meaningful health gains across mental and HIV outcomes.

## 5.1 COMMUNITY AND PATIENT EXPERIENCES

The SEEK-GSP project has reached over 3,000 people living with HIV/AIDS over the past five years. The experiences of the beneficiaries, the lay health workers, and the health workers have all been positive. The beneficiaries express how GSP has made it possible for them to overcome symptoms of depression and improved their mental health, physical wellbeing, and adherence to antiretroviral treatment. Beneficiaries also maintain their income-generating groups for a long time and request for the intervention to be extended to all villages.

*“By the time I was enrolled into this counselling (GSP session) I was hopeless. I knew there was nothing left for me as an HIV-positive person (but death). But when I enrolled into this program, it empowered me to gain confidence and started taking my medication. I also started investing each year in laying bricks and practicing agriculture and I now buy a cow every year. This project has helped me to realise that there is some importance in life.”*  
(Male beneficiary)

The project empowered the participants to become confident, overcoming self-isolation practices.

*“This training (GSP sessions) came in and gave me confidence. I stopped isolating myself from others and I started mixing up freely with the community.”* (Female beneficiary)

The hospital administration also expressed their satisfaction with the project’s impact of treating depression among their clients and supporting the hospital in following up clients.

*“It helped the hospital a lot because patients (PLHIV) were able to support themselves. Patients who had psychosocial problems were able to counsel themselves with the support and training given by the SEEK-GSP staff. The SEEK project supported the hospital in following up some of these patients in their homes and supporting them from there, including referrals.”* (Former hospital administrator, Kitgum Hospital)

The GSP training sessions have benefited communities in Northern Uganda. This has led to a strong relationship between the SEEK-GSP project and the community. People were enthusiastic about extending the project to other villages. The beneficiaries of the project also showed interest for membership continuity even after the completion of project activities.

*“Many community members want SEEK-GSP to be extended to the other villages. Actually they want to be continuously in the groups because it is helping them. Even the people who have not benefited from the group see that some of their friends are living positively, then they also want those groups to also help them. That is why sometimes they can call VHTs that SEEK-GSP should go deep to the villages.”* (Ouma Nelson, Coordinator SEEK-GSP project)

## 6. SUSTAINABILITY and scalability

The SEEK-GSP project has mainly depended on grants, but some aspects of the intervention are deemed sustainable. The project actively engaged the MOH, health district officials, and health facility managers in the study districts. This facilitated integration of project activities into the existing public health system in Northern Uganda. Furthermore, the mobilisation of existing community health workers was deemed to be a sustainable approach. Finally, the improved access to economic resources through group savings and new income-generating skills acquired by the participants, facilitated their retention in these groups beyond the psychotherapy intervention.

The GSP intervention was first implemented in Kitgum District in Northern Uganda, and was scaled up to Pader and Gulu districts. The project team has published nine research papers in peer-reviewed journals. These results have inspired other organisations, which have provided support to scale up this intervention. The project team received funding in 2020 from the Infectious Disease Institute (IDI) to train health workers to deliver GSP sessions among depressive PLHIV in health facilities in urban-poor settings of Kampala, central Uganda. The project team was also contacted to offer GSP training to eight health facilities in Mukono District, Eastern Uganda, however, this process was affected by the COVID-19 pandemic.

The project team has ambitions to scale up the intervention and reach more people, cover a wider geographical area and to increase the variety of service offered through a “Freemium” model. They hope to achieve their goal of providing the service at no cost, or a greatly subsidised cost, to low-income beneficiaries, while allowing others in higher socio-economic categories to access GSP techniques via an online platform and pay premium rates to meet the cost of providing the service.

## 6.1 LESSONS FOR OTHERS

### Addressing universal challenges in HIV settings

Many high-HIV-burden countries face comorbid depression, staff shortages, stigma, and weak mental health infrastructure. The SEEK-GSP model shows how a culturally grounded, low-cost group psychotherapy approach can be integrated into HIV care to fill a persistent care gap. Other countries can adopt and adapt this model to respond to similar structural constraints (e.g., the lack of mental health specialists, stigma, task-shifting needs).

### Innovative features make it replicable

What sets SEEK-GSP apart is not just what it does, but how it does it:

1. **Cultural adaptation:** Use of local idioms, stories, proverbs, gender-sensitive groups, and aligned beliefs makes the intervention resonate deeply with participants.
2. **Task-shifted delivery:** Training lay workers rather than relying on scarce mental health professionals enables scale and sustainability.
3. **Hybrid psychosocial + livelihood approach:** Combining mental health treatment with income-generating skills helps participants meet broader needs, improving retention and impact.
4. **Embedded supervision and quality control:** Supervision by facility-based staff ensures fidelity while preserving low marginal cost.
5. **Policy integration from the start:** Having GSP included in national HIV guidelines, mental health indicators in treatment cards, and treatment algorithms ensures alignment with government systems.

### Practical adaptability for LMICs

The model is flexible: it can be adapted to settings with existing community health workers, modest supervision capacity, and HIV care platforms. Although

developed in Uganda, SEEK-GSP has already been taken up via the SEEK-GSP Academy in countries like Nigeria, Cameroon, Ghana, Zimbabwe, and Zambia—demonstrating real-world transferability. The recent award to upgrade SEEK-GSP with AI-enabled dissemination shows further potential for remote training and support.

### Sustainability through local ownership

Because SEEK-GSP works through existing structures (HIV clinics, community health workers, local governments), it does not rely on parallel systems. The early and continuous engagement with the Ministry of Health, integration into national guidelines, and ownership by local health institutions make it more likely to endure beyond project cycles.

### Learning from challenges is itself a resource

SEEK-GSP encountered resistance—some HIV programs initially dismissed mental health as peripheral, and some stakeholders were skeptical of task-shifting mental health work. Documenting how the project built trust (through piloting, stakeholder dialogue, demonstration of early wins, and community advisory boards) is a critical lesson for new adopters—scale-up is not only technical but political and relational.

## 6.2 PERSONAL / FOUNDER LESSONS

Dr. Nakimuli-Mpungu's journey offers insight into the human side of innovation. She was motivated by observing how many PLHIV were referred to psychiatric services only when crises emerged, and by the clear link she observed between untreated depression and poor ART adherence. Her deep commitment, perseverance, and willingness to bridge research and practice enabled the development and scaling of GSP—even when that meant long hours, travel, and personal sacrifices.

## 7. KEY INSIGHTS FOR POLICY MAKERS AND IMPLEMENTERS

### 7.1 INTEGRATION INTO HIV CARE PLATFORMS MAKES MENTAL HEALTH MORE REACHABLE AND SUSTAINABLE

Rather than creating parallel mental health services, the SEEK-GSP model integrates group psychotherapy into existing HIV care systems. In Uganda, this meant embedding GSP into HIV treatment clinics, adding mental health indicators to HIV treatment cards, and formally including GSP in the National HIV Treatment Guidelines. Because patients already come to HIV clinics for ART refills, integrating mental health care in this process lowers barriers of transportation, stigma, and fragmentation. Hence, there's no need to build new infrastructure—one can “piggyback” onto well-established care pathways. Once mental health is normalised within HIV platforms, scale-up becomes more feasible, costs are shared, and the services become part of routine care rather than add-ons.

### 7.2 TASK-SHIFTING TO LAY WORKERS, WITH SUPERVISION, ENABLES SCALABILITY IN RESOURCE-LIMITED SETTINGS

One of the most practical innovations of SEEK-GSP is that lay health workers (often VHTs) are trained to lead the group therapy sessions, while facility-based health staff provide supervision. This approach circumvents the severe shortage of mental health professionals in low- and middle-income countries. The implementing team standardised the training, manuals, quality checklists, and supervision schedule so that fidelity and quality were maintained. For policymakers, the actionable insight is that with the right training, tools, and supervision framework, non-specialists can deliver effective psychosocial care. This means that scaling mental health services does not require proportionate

increases in psychiatrists or psychologists—but rather investment in capacity building and oversight.

### 7.3 CULTURAL GROUNDING AND HOLISTIC DESIGN STRENGTHEN ENGAGEMENT, RETENTION, AND IMPACT

SEEK-GSP is not a generic therapy transplanted from western contexts—it was developed locally using Ugandan metaphors, stories, proverbs, and culturally meaningful exercises. The groups have been gender-specific to respect social norms, and participants have been supported to co-create income-generating projects, address social determinants like poverty, and rebuild social networks. This holistic design tackles both psychological distress and the socioeconomic drivers of poor adherence and mental health. Cultural adaptation and addressing real-life stressors are not optional—they are essential for acceptability, retention, and sustained benefit. A mental health program that ignores livelihood or social context may struggle to maintain engagement or demonstrate real-world effectiveness.

## 8. RECOMMENDATIONS FOR HEALTH SYSTEMS AND POLICY MAKERS

### 8.1 INCLUDE MENTAL HEALTH INTERVENTIONS IN EXISTING DISEASE CARE PLATFORMS

- Integrate structured psychosocial therapies (such as group support psychotherapy) into HIV programs, tuberculosis care, or non-communicable disease (NCD) services to maximise reach and minimise duplication of infrastructure.

- Add mental health indicators to existing medical records to institutionalise monitoring.
- Ensure relevant mental health protocols and algorithms are embedded in national guidelines so that these services become “standard of care” rather than stand-alone pilots.

## **8.2 USE TASK-SHIFTING TO EXTEND MENTAL HEALTH REACH COST-EFFECTIVELY**

- Train lay health workers, peer counselors, or community health workers to deliver basic mental health interventions under a supervision framework.
- Develop standardised training content, fidelity checklists, and supervision tools to maintain quality.
- Provide modest stipends or incentives to maintain motivation, recognising that non-financial recognition (certification, community status) can also contribute.

## **8.3 LEVERAGE CULTURAL ADAPTATION AND HOLISTIC APPROACHES**

- Design interventions with local language, idioms, metaphors, and meaningful cultural practices to enhance acceptability and reduce stigma.
- Incorporate livelihood or income-generating components (where feasible) alongside psychological care, to address social determinants and support retention and recovery.
- Use gender-sensitive group structures and consider integrating social support, stigma reduction, and trauma-informed elements.

## **8.4 ENSURE MINIMAL ADDITIONAL COST WITH HIGH RETURN**

- Maintain a low per-client cost structure (e.g., modest transport support, lay worker stipends, supervision) to maximise affordability.
- Align economic evaluation thresholds and cost-effectiveness frameworks with national budgeting norms to make the case for adoption.
- Monitor downstream savings—reduced hospitalisations, better ART outcomes, less onward HIV transmission—to help justify mental health investment.

## **8.5 SCALE VIA A CASCADE TRAINING MODEL AND DIGITAL AUGMENTATION**

- Adopt a train-the-trainer approach: national trainers train regional trainers, who in turn reach community facilitators.
- Use digital tools (AI-supported modules, e-learning platforms) to accelerate scale, especially in settings where travel or resources are limited.
- Establish a central academy or coordinating hub (as in the SEEK-GSP Academy) to maintain quality standards and monitor scale-up.

## **8.6 ENGAGE STAKEHOLDERS EARLY AND BUILD INSTITUTIONAL OWNERSHIP**

- Involve the Ministry of Health, district health authorities, HIV program leads, and community representatives from the outset.
- Use pilot projects to demonstrate impact and build confidence before full rollout.
- Create community advisory boards and local champions to ensure responsiveness and legitimacy, and to help manage stigma and resistance.

## 8.7 PLAN FOR SUSTAINABILITY BEYOND DONOR CYCLES

- After initial scale-up, shift cost burden into government health budgets or integrate with existing funding lines for HIV, NCDs, or primary health care.
- Use routine supervision and monitoring systems already present
- in health services to maintain oversight, rather than establishing parallel systems.
- Build capacity for local research and adaptation so the intervention can evolve in response to changing needs and contexts.

## REFERENCES

Abas, M., Ali, G. C., Nakimuli-Mpungu, E., Chibanda, D. (2014). Depression in people living with HIV in sub-Saharan Africa: time to act.

Amiya, R. M., Poudel, K. C., Poudel-Tandukar, K., Pandey, B. D., Jimba, M. (2014). Perceived family support, depression, and suicidal ideation among people living with HIV/AIDS: a cross-sectional study in the Kathmandu Valley, Nepal. *PloS One* 9, e90959.

Antelman, G., Kaaya, S., Wei, R., Mbwapbo, J., Msamanga, G. I., Fawzi, W. W., Fawzi, M. C. S. (2007). Depressive symptoms increase risk of HIV disease progression and mortality among women in Tanzania. *J. Acquir. Immune Defic. Syndr.* 1999 44, 470.

Bavinton, B. R., Pinto, A. N., Phanuphak, N., Grinsztejn, B., Prestage, G. P., Zablotska-Manos, I. B., Jin, F., Fairley, C. K., Moore, R., Roth, N. (2018). Viral suppression and HIV transmission in serodiscordant male couples: an international, prospective, observational, cohort study. *Lancet HIV* 5, e438-e447.

Bernard, C., Dabis, F., de Rekeneire, N. (2017). Prevalence and factors associated with depression in people living with HIV in sub-Saharan Africa: A systematic review and meta-analysis. *PloS One* 12, e0181960.

Bhatia, M. S., Munjal, S. (2014). Prevalence of depression in people living with HIV/AIDS undergoing ART and factors associated with it. *J. Clin. Diagn. Res. JCDR* 8, WC01.

Ciesla, J. A., Roberts, J. E. (2001). Meta-analysis of the relationship between HIV infection and risk for depressive disorders. *Am. J. Psychiatry* 158, 725-730.

Cohen, M. S., Chen, Y. Q., McCauley, M., Gamble, T., Hosseinipour, M. C., Kumarasamy, N., Hakim, J. G., Kumwenda, J., Grinsztejn, B., Pilotto, J. H. (2016). Antiretroviral therapy for the prevention of HIV-1 transmission. *N. Engl. J. Med.* 375, 830-839.

Delavande, A., Cordeiro, R. M. (2012). Violent Conflicts and Risky Sexual Behavior in Uganda. Do, A. N., Rosenberg, E. S., Sullivan, P. S., Beer, L., Strine, T. W., Schulden, J. D., Fagan, J. L., Freedman, M. S., Skarbinski, J. (2014). Excess burden of depression among HIV-infected persons receiving medical care in the United States: data from the medical monitoring project and the behavioral risk factor surveillance system. *PloS One* 9, e92842.

Fabiani, M., Nattabi, B., Pierotti, C., Ciantia, F., Opio, A.A., Musinguzi, J., Ayella, E.O., Declich, S. (2007). HIV-1 prevalence and factors associated with infection in the conflict-affected region of North Uganda. *Confl Health*. 2007 Mar 1;1:3. Doi: 10.1186/1752-1505-1-3. PMID: 17411455; PMCID: PMC1847807.

Hartzell, J. D., Janke, I. E., Weintrob, A. C. (2008). Impact of depression on HIV outcomes in the HAART era. *J. Antimicrob. Chemother.* 62, 246–255.

Kingori, C., Haile, Z. T., Ngatia, P. (2015). Depression symptoms, social support and overall health among HIV-positive individuals in Kenya. *Int. J. STD AIDS* 26, 165–172.

Kinyanda, E., Weiss, H. A., Levin, J., Nakasujja, N., Birabwa, H., Nakku, J., Mpango, R., Grosskurth, H., Seedat, S., Araya, R. (2017). Incidence and persistence of major depressive disorder among people living with HIV in Uganda. *AIDS Behav.* 21, 1641–1654.

Kwesiga, J.M., Namuli, J.D., Akimana, B., Serunjogi, J.N., Kitaka, S.B., Seggane, M., Kaleebu, P., Nyirenda, M., Nakimuli-Mpungu, E. (2025). Prevalence and factors associated with mental health challenges among adolescents with HIV and viral non-suppression in rural northern Uganda. *Frontiers in Public Health*. 2025 Jun 20;13:1568575.

Luo, J., Zamar, D.S., Ogwang, M.D., Muyinda, H., Malamba, S.S., Katamba, A., Jongbloed, K., Schechter, M.T., Sewankambo, N.K., Spittal, P. M. (2022). Congo Lyc (Healing the Elephant): Probable post-traumatic stress disorder (PTSD) and depression in Northern Uganda five years after a violent conflict. *J Migr Health*. Jun 19;6:100125. doi:10.1016/j.jmh.2022.100125. PMID: 35832466; PMCID: PMC9272377.

May, M., Boulle, A., Phiri, S., Messou, E., Myer, L., Wood, R., Keiser, O., Sterne, J.A., Dabis, F., Egger, M. (2010). Prognosis of patients with HIV-1 infection starting antiretroviral therapy in sub-Saharan Africa: a collaborative analysis of scale-up programmes. *The Lancet* 376, 449–457.

Mayston, R., Kinyanda, E., Chishinga, N., Prince, M., Patel, V. (2012). Mental disorder and the outcome of HIV/AIDS in low-income and middle-income countries: a systematic review. *Aids* 26, S117–S135.

Meffert, S. M., Neylan, T. C., McCulloch, C. E., Maganga, L., Adamu, Y., Kiweewa, F., Maswai, J., Owuoth, J., Polyak, C. S., Ake, J. A. (2019). East African HIV care: depression and HIV outcomes. *Glob. Ment. Health* 6.

MOH, 2019. Uganda Population-based HIV Impact Assessment (UPHIA) 2016-2017: Final Report. Kampala: Ministry of Health; July, 2019.

MOH, 2018. Consolidated guidelines for the prevention and treatment of HIV and AIDS in Uganda.

MOH, 2012. The Integrated National Guidelines on Antiretroviral Therapy Prevention of Mother to Child Transmission of HIV Infant & Young Child Feeding.

MOH, 2010. Village health team: strategy and operational guidelines.

Mugavero, M. J., Lin, H. Y., Willig, J. H., Westfall, A. O., Ulett, K. B., Routman, J. S., Abrams, S., Raper, J. L., Saag, M. S., Allison, J. J. (2009). Missed visits and mortality among patients establishing initial outpatient HIV treatment. *Clin. Infect. Dis.* 48, 248–256.

Nakimuli-Mpungu, E., Bass, J. K., Alexandre, P., Mills, E. J., Musisi, S., Ram, M., Katabira, E., Nachega, J. B. (2012). Depression, alcohol use and adherence to antiretroviral therapy in sub-Saharan Africa: a systematic review. *AIDS Behav.* 16, 2101–2118.

Nakimuli-Mpungu, E., Musisi, S., Katabira, E., Nachega, J., Bass, J. (2011). Prevalence and factors associated with depressive disorders in an HIV+ rural patient population in southern Uganda. *J. Affect. Disord.* 135, 160–167.

Nakimuli-Mpungu, E., Musisi, S., Wamala, K., Okello, J., Ndyabangi, S., Birungi, J., Nanfuka, M., Etukoit, M., Mayora, C., Ssengooba, F. (2020). Effectiveness and cost-effectiveness of group support psychotherapy delivered by trained lay health workers for depression treatment among people with HIV in Uganda: a cluster-randomised trial. *Lancet Glob. Health* 8, e387–e398.

Nakimuli-Mpungu, E., Wamala, K., Okello, J., Alderman, S., Odokonyero, R., Mojtabai, R., Mills, E. J., Kanters, S., Nachega, J. B., Musisi, S. (2015). Group support psychotherapy for depression treatment in people with HIV/AIDS in northern Uganda: a single-centre randomised controlled trial. *Lancet HIV* 2, e190–e199.

Nel, A., Kagee, A. (2013). The relationship between depression, anxiety and medication adherence among patients receiving antiretroviral treatment in South Africa. *AIDS Care* 25, 948–955.

Oguntibeju, O. O. (2012). Quality of life of people living with HIV and AIDS and antiretroviral therapy. *HivAids Auckl. NZ* 4, 117.

Patel, V., Collins, P. Y., Copeland, J., Kakuma, R., Katontoka, S., Lamichhane, J., Naik, S., Skeen, S. (2011). The movement for global mental health. *Br. J. Psychiatry* 198, 88–90.

Patel, S., Schechter, M. T., Sewankambo, N. K., Atim, S., Kiwanuka, N., Spittal, P. M. (2014). Lost in Transition: HIV Prevalence and Correlates of Infection among Young People Living in Post-Emergency Phase Transit Camps in Gulu District, Northern Uganda. *PLoS ONE* 9(2): e89786. <https://doi.org/10.1371/journal.pone.0089786>

Remien, R. H., Stirratt, M. J., Nguyen, N., Robbins, R. N., Pala, A. N., Mellins, C. A. (2019). Mental health and HIV/AIDS: the need for an integrated response. *AIDS Lond. Engl.* 33, 1411. Rivera-Rivera, Y., Vázquez-Santiago, F. J., Albino, E., Sánchez, M. del C., Rivera-Amill, V. (2016). Impact of depression and inflammation on the progression of HIV disease. *J. Clin. Cell. Immunol.* 7.

Rodger, A. J., Cambiano, V., Bruun, T., Vernazza, P., Collins, S., Van Lunzen, J., Corbelli, G. M., Estrada, V., Geretti, A. M., Beloukas, A. (2016). Sexual activity without condoms and risk of HIV transmission in serodifferent couples when the HIV-positive partner is using suppressive antiretroviral therapy. *Jama* 316, 171–181.

Rujumba, J., Kwiringira, J. (2010). Interface of culture, insecurity and HIV and AIDS: Lessons from displaced communities in Pader District, Northern Uganda. *ConflHealth* 4, 18 (2010). <https://doi.org/10.1186/1752-1505-4-18>

Tsai, A. C., Bangsberg, D. R., Frongillo, E. A., Hunt, P. W., Muzoora, C., Martin, J. N., Weiser, S. D. (2012). Food insecurity, depression and the modifying role of social support among people living with HIV/AIDS in rural Uganda. *Soc. Sci. Med.* 74.

Uganda AIDS Commission. (2016). The Uganda HIV and AIDS country progress report July 2015-June 2016. Government of Uganda.

UNAIDS. (2020). Seizing the moment: Tackling entrenched inequalities to end epidemics.

UNAIDS. (2018). UNAIDS DATA 2018.

UNAIDS. (2011). Global HIV/AIDS response. Epidemic update and health sector progress towards Universal Access. Progress report.

Violari, A., Cotton, M. F., Gibb, D. M., Babiker, A. G., Steyn, J., Madhi, S. A., Jean-Philippe, P., McIntyre, J. A. (2008). Early antiretroviral therapy and mortality among HIV-infected infants. *N. Engl. J. Med.* 359, 2233-2244.

WHO. (2008). Task shifting: Global recommendations and guidelines.