# BOTSWANA BAYLOR TRUST











December 2024

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# EXECUTIVE **DIRECTOR**

Prof. Mogomotsi Matshaba

Dumelang friends of Botswana-Baylor Children's Clinical Centre of Excellence! It is with immense pride and gratitude that I reflect on the past year at the Botswana-Baylor Trust. As we celebrate our 21st anniversary, we mark not only a milestone in our journey but also a testament to the unwavering commitment to providing exceptional healthcare to the children of Botswana as their families. This year has been one of significant growth, highlighted by the expansion of our services and the strengthening of our partnerships.

Furthermore, we note that this year has also been particularly significant, as we were honored by the esteemed visit of Baylor College of Medicine President, Executive Dean and Chief Executive Officer, Professor Paul Klotman. His visit underscored the strong bond between our institutions and reaffirmed our shared dedication to advancing health care in Botswana.

We extend our heartfelt gratitude to the Government of Botswana for their continued support and trust. The support is primarily channeled through the Ministry of Health and to a lesser extent, others. Through this investment, the increased government subvention has been instrumental in expanding our service offerings, including the introduction of paediatric surgery services and vaccine development training. These advancements are a direct reflection of our commitment to adapt and innovate, addressing the evolving healthcare needs of the nation.



As we look to the future with optimism, we recognize the importance of collaboration and synergy. Our commitment to excellence extends beyond the walls of our clinic. We will continue to adapt and innovate, seeking new ways to improve the health and well-being of Botswana's children and their families. We are proud to stand shoulder-to-shoulder with the Ministry of Health and the Government of Botswana, working tirelessly to break down silos and forge a unified path toward healthcare excellence while we brace for a more digital future. We believe that by embracing the spirit of partnership, as aptly captured in the African proverb, "If you want to go fast, go alone, if you want to go far, go together," we can achieve even greater milestones in the years to come.

The Botswana-Baylor Trust remains steadfast in its mission to provide the highest quality of care to Botswana's children. We are here for the long haul, committed to serving as a beacon of hope and healing for generations to come.

Warm regards,
Mogomotsi Matshaba
Executive Director

# TRUST BACKGROUND

#### **OUR VISION**

A future where all children are living longer and healthier lives.

#### **OUR MISSION**

To provide high-quality comprehensive family centered health care, education, and clinical research.

#### **WHO WE ARE**

Botswana-Baylor Children's Clinical Centre of Excellence (Botswana-Baylor Trust) is a national general care and treatment facility that provides services in Gaborone, Botswana. We serve children, adolescents, and young adults and their families from around the country. Our services include treatment for human immunodeficiency virus (HIV), associated infections, and now extend to oncology care and treatment for patients nationally. In addition, we act as a major research hub contributing valuable information to the international HIV and oncology communities. Botswana Baylor Trust is a public-private partnership between the government of Botswana and Texas Children's Global Health













Network (formerly BIPAI), which was launched in June 2003. It is located on the campus of Princess Marina Hospital, the largest tertiary care referral hospital in Botswana.

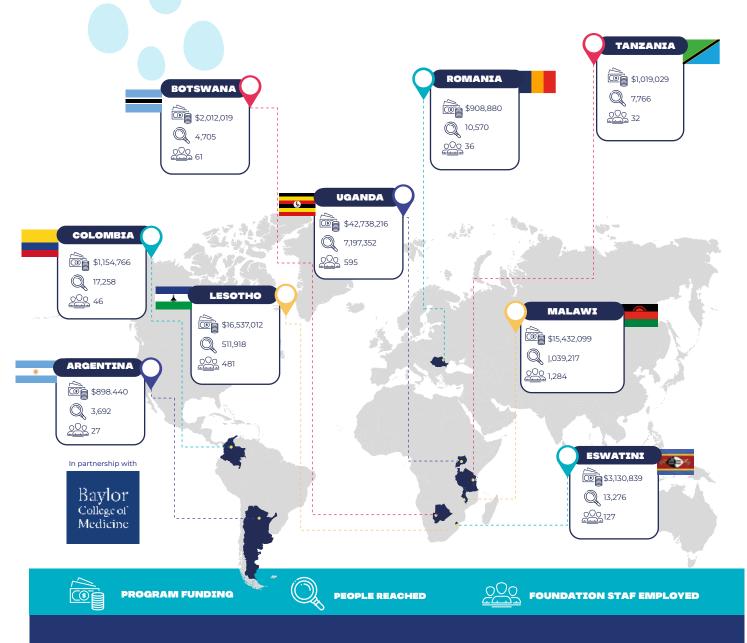
Botswana-Baylor Trust provides free-of-charge, state-of-the-art paediatric HIV, oncology, and blood disorder care, treatment, and support to children, adolescents, and their families at the main clinic in Gaborone and through decentralized outreach services across the country. Botswana-Baylor Trust is a leader in the field of paediatric HIV and cancer care in Botswana, the Southern Africa region, and beyond.

The Paediatric Haematology and Oncology (PHO) programme at Botswana Baylor Trust, a partnership between several institutions, including the Ministry of Health & Wellness, Texas Children's Hospital, and the Botswana-Baylor Trust, has improved the care of children with cancer and blood disorders in Botswana since 2007.

In June 2016, the Botswana Ministry of Health formalized its partnership with Botswana-Baylor Trust and technical partners for cooperation on scientific, technical, and medical initiatives to improve paediatric cancer and haematology care throughout the country. The PHO program offers comprehensive PHO services, primarily at Princess Marina Hospital.

# NETWORK IMPACT AT A GLANCE





# **COLLECTIVE IMPACT**



\$83,831,300

Total Network Funding



8,805,754 Total People Reached



2,689 Total Staff Employed



8.859 Total Health

Personnel Trained

Each foundation in the Texas Children's Global Health Network works together, sharing ideas to tackle tough health problems in their communities and around the world.

# CLINICAL PROGRAMMES

# PAEDIATRIC INFECTIOUS DISEASE CLINIC (PIDC)

In 2021, Botswana achieved the World Health Organization's silver tier status for prevention of mother to child transmission of HIV by achieving less than 500 new HIV infections per 100,000 live births. This means that we have realised Botswana's dream of epidemic control where we now have to care for an aging population. Providing treatment and support for a generation that is aging with HIV comes along with its own unique challenges such as mental illnesses, non-communicable diseases and socio-economic challenges faced by developing nations. It is important to acknowledge the competent, loyal and dedicated staff of PIDC that continues to provide unsurpassed care and treatment to our clientele. These clinicians assist not only and providing clinical care and research but also in mentoring visiting scholars, nurse prescribers while on training and other cadres who come for their attachments in the clinic e.g. social workers, psychologists and counsellors. In addition, mentoring outreach and training support for districts around the country has been vital in improving treatment outcomes amongst children, adolescents and young adults living with HIV in Botswana.



#### We aim to:

- Maintain consistent service delivery to our clients.
- Implement and enhance infection control measures.
- Provide child- and youth-friendly services that encourage children, adolescents, and young adults to openly share their challenges, fostering improved treatment outcomes.
- Increase access to and utilization of cervical cancer screening and sexual and reproductive health services among adolescents and young adults.
- Enhance psychosocial services by incorporating comprehensive mental health screening and support.
- Advocate for active parental involvement in the care and support of children, adolescents, and young adults.
- Promote partner testing and the adoption of Pre-Exposure Prophylaxis (PrEP).

# **Challenges faced:**

- High unemployment rates among young adults.
- Socioeconomic challenges that restrict access to clinic services.
- Substance use and alcohol abuse.
- Mental health conditions, such as anxiety and depression.
- Delinquent behaviours and inadequate family or caregiver support among adolescents and young adults living with HIV.

Total number of Active clients at Clinical Centre of Excellence (COE)	<b>2,707</b> PIDC 2,357, PHO 337, PrEP 13
Percentage of HIV positive clients on Antiretroviral therapy (ART)	100%
Percentage of patients with up to date documented viral load measurement	99.9%
Percentage of patients with suppressed viral load (less than 1,000 copies)	93.8%
Percentage of patients with suppressed viral load (less than 200 copies)	90.7%
Annual Retention Rate	93.2%
Proportion patients with good adherence (average ART adherence > 95% and < 105%)	81.4%
Percentage of adolescents with suppressed viral load (less than 1,000 copies) (13-18 years)	97%

HIV DNA PCR	Numbers
Total Number of infants tested for DNA PCR from 1st July 2023 to 30th June 2024	26
HIV negative	18
HIV positive	08
Total initiated on ART	08
Infants tested with pending results	Ο

Total Rapid HIV Tests Provided				
Age	Negative	Positive	Started on ART	Started on PrEP/Partner testing
Under 5	15	2	2	0
6-13	2	1	1	0
14-19	3	0	0	0
20+	42	3	3	24
Total	62	6	6	24

Paediatric HIV/TB July 2023 to June 2024	
Total Number patients with tuberculosis (TB)	4
Total Number of patients who completed anti-tubercular treatment (ATT)	3
Total Number of patients on ATT	5
Total patients who died while on ATT	0
Total Number of patients with resistance	0
Total Number of patients admitted	0
Pulmonary TB	5



# **HIV-negative Screened**

Out of 56 screened for cervical cancer, 3 were HIV negative. The ages are 27, 33, and 41. Method used for screening: visual inspection with acetic acid (VIA) and Pap smear. Results: Negative to HPV and none had STI and PID. However, 1 had inconclusive VIA results and sample was sent for Pap smear which came out negative.



Resistance Assay – 9

Rapid Pregnancy Tests	
Total	40
Negative	32
Positive	08

# New and upcoming

# 1. TB Preventative Therapy

Botswana is a pioneer in implementing TB preventive therapy for people living with HIV (PLHIV). The Ministry of Health recently introduced 3HP (Isoniazid/Rifapentin) for prevention of TB amongst People Living with HIV above the age of 12-years. This is a simpler and shorter regimen approved by World Health Organization (WHO).

# 2. Pre-Exposure Prophylaxis (PrEP) Programme

On April 2023, our clinic made an important advancement in HIV prevention by launching a PrEP program, targeting both discordant couples and the general public. Although the initial enrolment of four clients has been more modest than anticipated, the program has successfully begun fostering a supportive environment for partner disclosure and HIV prevention. This outcome was expected, as our clinic primarily focuses on treating individuals living with HIV, with limited interaction with those who are affected by or not living with the virus.

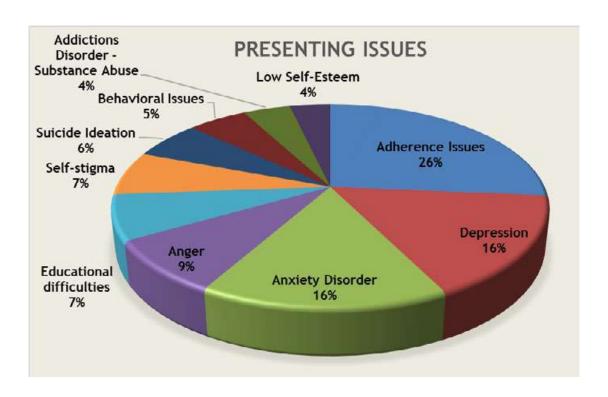
# CLINICAL PSYCHOLOGY DEPARTMENT

As the fiscal year ended, the Psychology Department achieved significant growth, making a positive impact on the mental health of our patients. Our work has centered on providing psychological support to individuals living with HIV, addressing their mental health needs, and offering counseling to improve treatment adherence and overall well-being. This year, we expanded our team and introduced a new intervention: art therapy. This program aims to enhance the quality of life for children and help alleviate various psychological symptoms.

The achievements during this period include:

- Addressing the mental health challenges faced by our 4,030 patients.
- Art Therapy Intern Students conducted over 40 sessions of Art Therapy between February and June 2024.

Here are the top 10 mental health challenges reported by the Psychology Department.



# Physician Outreach Programme

The outreach programme aims to enhance the capacity of healthcare institutions across Botswana to deliver high-quality care and treatment to children, adolescents, and young adults living with HIV through clinical mentorship of healthcare professionals. The outreach team, comprising a physician and a nurse prescriber, conducts monthly site visits. During these visits, the team provides consultations for patients experiencing virological failure, addresses the needs of patients requiring specialized care in the Infectious Disease Control Clinic (IDCC) and beyond, and mentors medical officers, nurse prescribers, and other healthcare professionals working alongside them.

Unique Encounters July 2023 - June 2024		
Male	Female	Total
276	441	717

Unique Encounters July 2023 - June 2024 <18 years		
Male	Female	Total
140	180	320

Table Showing outreach numbers and sites covered

A Clinical Psychologist was included in the outreach team, with visits scheduled based on need, particularly in areas without access to a Clinical Psychologist.









# **SOCIAL WORK DEPARTMENT**

The social work department at the centre provides counselling, care, and support services to Botswana Baylor Trust patients and their families. Our Social Worker primarily provided services through home visits for emergency cases, patients "lost to follow-up," and those needing adherence support or counselling.

Category	Outcome	n
	Infant Referrals	2
Hiv Testing	Sexual Partner Referral	4
	Total	6

Category	Outcome	n
	Referral for Re-initiating Antiretroviral therapy (ART)	58
	Referral for Antiretroviral therapy (ART) Initiation	1
Enrollement	Referral for Post-exposure Prophylaxis (PEP)	1
	Referral for Pre-Exposure Prophylaxis (PrEP)	2
	Total	62
	In-Reach Home Visits	58
	Psycho-Social Barriers	50
	Educational Barriers	12
Retention to HIV Care	Economic Barriers	35
	Legal Barriers	27
	Medical Barriers	135
	Total	341

Category	Outcome	n
	Referrals for External Services	26
Referrals	Number of Successfully Completed Refe- rrals	15
	Total	41
	Official Transfer Outs	5
Transfer Outs	Self-Transfer Outs	16
	Total	21
Deaths	Total	2
	Internship and student attachment	4
	In job Training	0
Capacity Building	Workshops	2
	Community stakeholder engagements	1
	Total	7





# PAEDIATRIC HAEMATOLOGY AND ONCOLOGY (PHO) DEPARTMENT



There are 60 patients in need of social services, particularly transportation. Of these, 20 are already receiving support through a local social worker, while 40 are awaiting social work assessment.

# O Community Service

- In September 2023, the Botswana-Baylor Trust hosted a "survivor party," bringing together 160 children and their caregivers.
- In February 2024, the Botswana-Baylor Trust staff participated in a walk to commemorate World Paediatric Cancer Day.
- The team continues to conduct palliative care visits to support the clinical and psychological well-being of clients and their families.
- Media coverage for International Childhood Cancer Day commemorations: A local radio station interviewed one of our doctors to raise awareness about childhood cancers and blood disorders.

## **EDUCATION & TRAINING**





# Paediatric KITSO Training

Paediatric HIV KITSO training sessions were conducted nationwide to enhance the knowledge of local healthcare workers in providing high-quality paediatric HIV care. The breakdown of attendees by profession is shown below.

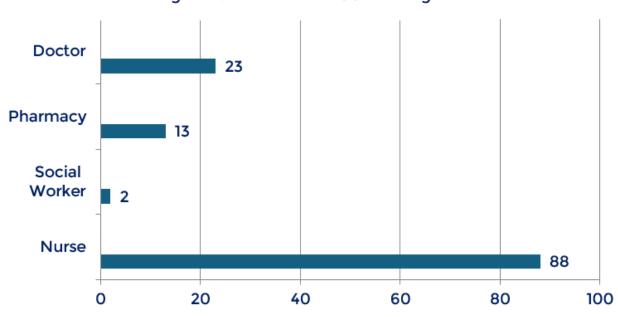


Figure 7. Paediatric KITSO Trainings

Figure 7. Number of clinicians that attended the sessions

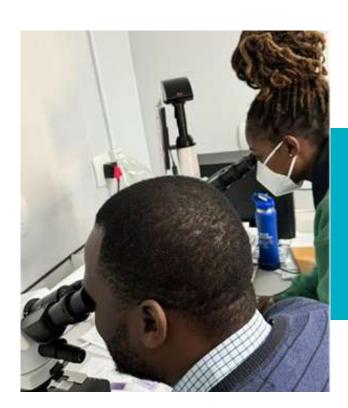
The Figure 7. depicts that most attendants at our trainings were nurses

# Exchange Program: Dr. Ludo Molwantwa's Training Experience in Malawi

Dr. Ludo Molwantwa, a paediatrician at our clinic, visited Kamuzu Central Hospital in Lilongwe, Malawi, in June 2024 to learn from the team in Malawi. During her visit, she reviewed slides in their new Paediatric Haematology Oncology (PHO) laboratory and observed a higher volume of cases compared to Botswana. This training provided her with valuable insights into the multidisciplinary approach used by the Malawi team, which she plans to apply in Botswana.

# Her key takeaway message:

"I appreciated that patients with failed induction ALL can be re-inducted as an option of not going on full palliation but also taken on a case-by-case situation. Emergency chemotherapy while awaiting biopsy results can be vital and could help improve the outcome especially for aggressive tumors. Oral palliative chemotherapy for some of the solid tumors as well as switching to second line chemotherapy for poor response pending availability could help increase the lifespan of our clients. Quality improvement interventions to implement would be centered on improving efficiency for better patient care. Clearer definition of roles and task sharing could improve efficiency and in return result in improved patient care, satisfaction and overall outcome. A bedside ultrasound scan would be helpful with quicker diagnostic and procedure safety on some of the new patients." Dr Molwantwa



Dr Molwantwa during her visit in Malawi

# Stakeholder Engagement and Networking

Through the My Child Matter Grant, the department trained 27 health education assistants in pediatric palliative care (PPC). The trained nurses will be focal persons for PPC in their districts.

# First Motswana Paediatric Haematologist-Oncologist Seconded to Botswana-Baylor Trust by Ministry of Health

Dr. Katlego Tshimane, the first-ever locally trained Paediatric Haematologist-Oncologist seconded by the Ministry of Health & Wellness to Botswana-Baylor, has joined the department after graduating from the University of Cape Town, South Africa. Her training in South Africa was generously supported by the Botswana-Baylor Trust, the Global HOPE program at Texas Children's Hospital and Baylor College of Medicine, through a gift from the Bristol Myers Squibb Foundation.

# Affiliations and Partnerships with Local and International PHO Organizations

As a host for the Novo Nordisk Haemophilia Foundation (NNHF) grant, the PHO department facilitated a training twinning program between the Botswana Inherited Bleeding Disorder Association and the South Africa Hemophilia Association. This partnership aims to strengthen advocacy initiatives for individuals with hemophilia and other bleeding disorders, as well as to promote community engagement. Additionally, one of our paediatric haematologist and oncologist participated in the training program.





## TRAINING HIGHLIGHTS

- Trained a physiotherapist in Kenya for one month.
- Two Botswana-Baylor clinicians received training at the World Federation of Hemophilia Certified Centre in South Africa.
- Data clerk training supported by the Global HOPE scholarship in Data Science.
- One exchange program completed.
- Trained and certified 25 nurses from Sir Ketumile Masire Teaching Hospital in the basics of chemotherapy administration.
- Dr Mamiki Chise finished the fellowship in Cape Town, South Africa, with generous support from the Botswana-Baylor Trust, the Global HOPE programme at Texas Children's Hospital and Baylor College of Medicine through a gift from the Bristol Myers Squibb Foundation.





#### **INTERNATIONAL CONFERENCES**

Executive Director, Prof. Mogomotsi Matshaba, attended the Human Health and Heredity in Africa (H3Africa) Steering Committee meeting in Mauritius, where the future of the consortium was discussed. H3Africa empowers African researchers to be competitive in genomic sciences, fosters effective collaborations among researchers across the African continent, and generates unique data to improve both African and global health.

In April 2024, Prof. Matshaba also participated in the Data Science for Health Discovery and Innovation in Africa (DS-I Africa) meeting in Mauritus. The DS-I Africa Initiative aims to leverage data science technologies to transform biomedical and behavioral research, ultimately developing solutions to improve health outcomes for individuals and populations.

Additionally, Prof. Matshaba attended the 2024 U.S.-Africa Summit in Dallas, Texas.The Corporate Council on Africa (CCA) hosted the 16th U.S.-Africa Business Summit from May 6-9, 2024. The summit brought together over 1,500 public and private sector executives, including Heads of State, international investors, U.S. and African government officials, and multilateral stakeholders. The goal was to facilitate connections between leaders, government officials, and private sector decision-makers to foster sustainable U.S.-Africa business partnerships.



PHO Nurse Ramphaleng presenting at the SIOP



PHO social worker Mrs Sosome presenting an oral abstract at the SIOP conference



Nurse Manager Gontshwanetse at the SIOP conference in Hawaii



Dr Kimutai far left at the Haemophilia conference in Istanbul

Our Programs Officer, Thato Mookodi, attended the Beyond the Sequence: Ethical, Legal and Social Contexts in Genomics workshop series virtually, with in-person sessions held in London and Cape Town in January, March, and April 2024, respectively. This workshop, organized through the H3Africa mailing list, aimed to explore the broader landscape of genomics, address barriers to deeper integration, and create opportunities for new networks and ways of working. It also sought to share innovative approaches and develop guidance and recommendations for Wellcome and other organizations.

Our Haematologist-Oncologist, Dr. Katlego Tsimane, attended the World Hemophilia Congress in Madrid, Spain, from April 19 to April 24, 2024. During the event, she met with another specialist to discuss haemophilia care.

Three PHO team members—Mrs. Sewelo Sosome, Obokeng Ramphaleng, and Andries Gontshwanetse—attended the SIOP Africa conference from June 4-8, 2024, where they presented three oral abstracts and one poster abstract.

Our Haematologist-Oncologist, Dr. Kimutai, attended the haemophilia meeting on the 31st of May in Istanbul. The meeting focused on discussing haemophilia prophylaxis.

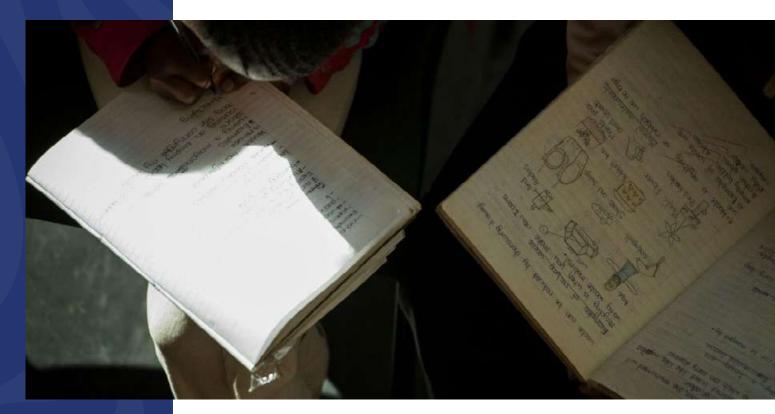


Figure 1. A tutee writing in her book during one of the tutoring sessions.



## **ADOLESCENT CENTRE SERVICES**



The tutoring programme was established in 2008 to support school-age patients with learning difficulties and/or poor academic performance. Many Botswana-Baylor Trust patients miss school to attend clinic appointments, and the academic consequences of missed lessons undoubtedly accumulate over time. Like other school-going children, some patients require tutoring to improve their grades. During consultations, Botswana-Baylor Trust clinicians, community health workers, psychologists, and social workers assess patients' academic performance. Those with grades of 'C' or below are referred to the programme for intervention. Between July 2023 and June 2024, 50 adolescents and teenagers participated in the tutoring programme. Of the attendees, 66% (33) were female, and 34% (17) were male.

# Operation Triple Zero (OTZ)

The Operation Triple Zero (OTZ) program, implemented by Botswana-Baylor Children's Clinical Centre of Excellence with support from UNICEF and the US Centers for Disease Control (CDC), aims to empower adolescents and young people living with HIV (A/YPLHIV) in Botswana. The program's goal is to achieve zero viral loads, zero missed clinic appointments, and zero missed doses among young people living with HIV. OTZ services are delivered through Teen Clubs, caregiver training, healthcare worker training, and peer support.

# O Peer Support Model

During this reporting period, the role of peer supporters was enhanced to better assist patients aged 0 to 24 facing challenges. Three peer supporters were engaged at the clinic. In February 2024, they were introduced to the solution-focused model by the clinic psychologist. Later, in June, they received training on the peer supporters' curriculum. The curriculum covered topics such as HIV treatment, child development, human development theories, mental health, adherence, disclosure, PrEP, PEP, and more.

# Peer supporters seeing challenged patients

January to March	Female	Male	Total
Gaborone Teen	7	2	9
Gaborone Young Adults	17	7	24
Total	24	9	33



Teen Club is a monthly peer support intervention established in 2005 for HIV-positive adolescents aged 13 to 19. The program empowers youth to build positive relationships, improve self-esteem, and acquire life skills through peer mentorship, adult role modelling, and structured activities. Teen Club sessions are held inperson on the last Saturday of each month at the Adolescent Center. A total of individuals attended the sessions, with the gender and age breakdowns shown in Figures 3 and 4.

42% 339 58% 467 ■ Females ■ Males

Figure 3. Teen Club Attendance



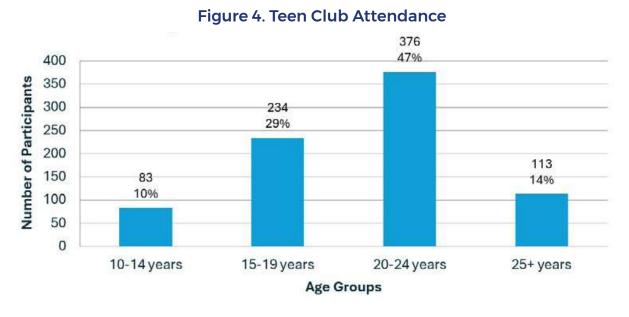


Figure 4. This chart illustrates over 50% of attendees were young adults 20 years or above



Figure 5. Teens participating in district-wide Teen Club

# Impact Evaluation

The Botswana-Baylor Children's Clinical Centre of Excellence (BBCCCOE), together with UNICEF and the Ministry of Health of Botswana, carried out a study to evaluate the impact of Comprehensive Models of Care for Adolescents and Young People Living with HIV (AYPLHIV) aged 13-18 from 2018 to 2022. This study looked at clinical, psychosocial, and behavioral outcomes in six districts of Botswana. The study followed the same group of people over time, starting with 255 participants and ending with 157. Key activities included training healthcare workers (HCWs), holding sessions for caregivers, and involving participants in Teen Clubs.

Data was collected from both primary and secondary sources and analyzed using SPSS and NVivo.

The study showed positive results, including more teens in relationships sharing their status, better control of the virus, more use of condoms, and more conversations about sexuality. It also found that teens were more accepting of their status and felt comfortable talking about their treatment with partners and others.

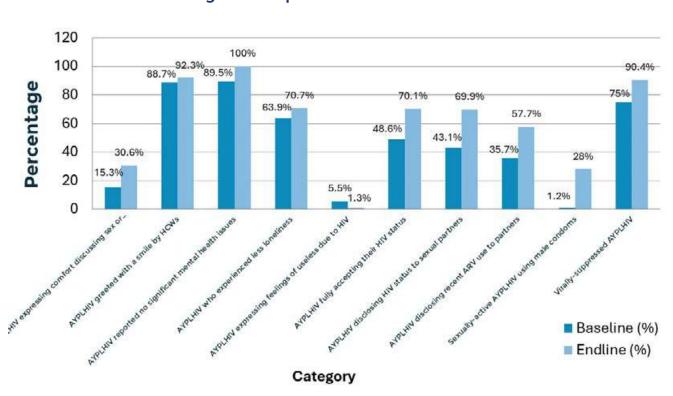


Figure 6. Impact Evaluation on AYPLHIV

Figure 6. Impact Evaluation on AYPLHIV

# Family Weekend Camp

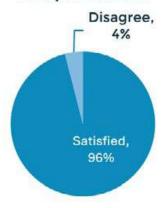
The first-ever Haematology/Oncology Family Weekend Camp, organized by Botswana-Baylor Children's Clinical Centre of Excellence in partnership with the Serious Fun Network, was held to support children with cancer and blood disorders, as well as their caregivers.

This weekend camp provided a safe, youth-focused space where children and caregivers could learn important skills to help them cope with life. The goal was to improve resilience, self-esteem, and mental well-being. The camp had 29 children and teenagers (aged 10-21) and 29 caregivers, making a total of 58 participants. Activities included learning about taking medication correctly and regularly, arts and crafts, fun activities, and personal reflection time. These activities helped create a supportive environment where participants could share their experiences and build emotional support networks with each other.

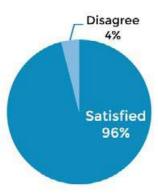


Figure 8. Campers' Conditions and Fe	edback
Total patients treated	29

# Caregriver's Satisfaction with Camp Activities



# Children's Satisfaction with Camp Activities



Figures 8. Shows that both caregivers and children feedback regarding the camp

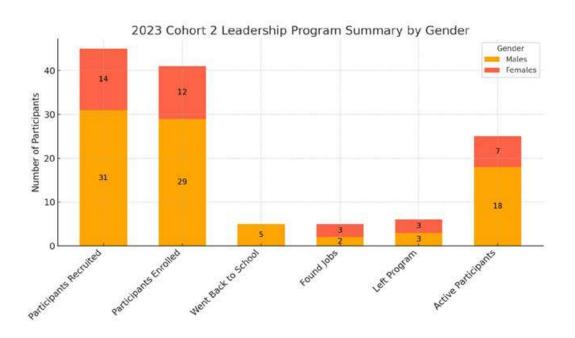


Figure 15. Participants engaging in group discussions

# **C** Leadership Program

"Finding the Leader Within" is a six-month leadership program funded by the FACET Foundation. It is designed to help young adults aged 18–25 reach their goals, whether they want to get a job, start a business, or go back to school.

The program helps people discover their own leadership style, understand different ways to lead, and learn how to use influence in a responsible way. With detailed lessons, the program gives young adults the knowledge and confidence they need to make smart choices in their careers and lives.



# Orphan and Vulnerable Children (OVC) Project

Global Communities-Botswana partnered with Botswana-Baylor Children's Clinical Centre of Excellence (COE) to implement the Comprehensive Care and Support for OVC project in Botswana in Gaborone District, Botswana, for the 7th year. Most of the services were provided at the clients' homes and included support for sticking to ART (Antiretroviral Therapy), treatment education for different age groups, counselling for age-appropriate disclosure, Teen club sessions, and psychosocial support through PET (Positive Education and Training), among other services.

**Table 1** shows the total beneficiaries served during this reporting period.

Age	HIV +	On ART	Suppressed VL	Detectable VL	Not on ART	VL Record expired
<7	0	0	0	0	0	0
1-4	4	4	4	0	0	0
5-9	33	33	31	0	0	2
10-14	70	70	69	0	0	1
15-17	51	51	51	0	0	0
18+	382	382	373	4	0	5
Total	540	540	528	4	o	8

**Tables 2**, shows the numbers of HIV positive individuals on ART and VL suppression status.

Age Range Classification								
Sex	0	1-4	5-9	10-14	15-17	18+	Total	
Male	0	5	48	45	48	152	298	
Female	0	9	58	79	40	378	564	
Total	0	14	106	124	88	530	862	

**Table 3. Selected services provided** 

	Target	Served
HIV Adherence support for children (0-17 years)	158	158
HIV Adherence support for Caregivers (18+ years)	382	382
Age-appropriate HIV Treatment Literacy (0-17years)	140	115
Age-appropriate counselling and HIV disclosure support for Children	Undefined	25
Attended Teen Club	Undefined	90

**Table 3** shows that a total of 158 out of 158 (100%) HIV positive children were given adherence support. Caregivers also received 100% (382/382) of HIV adherence support service for those who are eligible.



Research remains one of the key pillars of the organisation, and the following are the ongoing studies.



The Botswana Epidemiological ART Treatment Cohort Study 2 (2TheBEAT) is an observational, non-interventional retrospective study focused on reporting the seven-year (2016-2023) clinical outcomes and efficacy of Dolutegravir (DTG)-containing regimens in adults and adolescents, following the implementation of the *Treat All* strategy in Botswana.

#### Cohort 1:

# **Primary Objective:**

To evaluate the effectiveness of TDF/3TC or FTC (XTC)/DTG compared to TDF/XTC/EFV in ART-naïve patients. Treatment effectiveness will be assessed in terms of:

- Rates of virological suppression
- Time to virological suppression
- Virological rebound
- Virological non-response

#### **Predicted Enrollment:**

- DTG: 1,500 patients
- EFV: 1,500 patients

#### Cohort 2:

# **Primary Objective:**

To assess the effectiveness of DTG in INSTI-naïve ART-experienced adults and adolescents who switch to a DTG regimen from first- or second-line ART regimens. Treatment effectiveness will be evaluated based on:

- Rates of virological suppression
- Time to virological suppression
- Virological rebound
- Virological non-response

#### **Predicted Enrollment:**

- Adults: 1,000
- Adolescents: 500

#### **Enrollment Status:**

- Cohort 1 (DTG): 1,501
- Cohort 1 (EFV): 1,500
- Cohort 2 (Adults): 1,013
- Cohort 2 (Adolescents): 503

# **Secondary Objectives for Cohort 1 & Cohort 2:**

- 1. To determine the number and proportion of patients with HIV-1 RNA <50 and <200 copies/mL by treatment group, summarized at 3, 6, 12, 24, 36, 48, and 60 months post-treatment initiation. Data will be stratified by viral load status at baseline (suppressed vs. not suppressed).
- 2. To determine the incidence of safety events and their outcomes among adults and adolescents initiated or switched to DTG in first- and second-line ART treatment.
- **3.** To evaluate the documented clinical outcomes of adults and adolescents who develop opportunistic infections (including tuberculosis, cryptococcal meningitis, herpes simplex, cytomegalovirus, syphilis, candidiasis, and toxoplasmosis) while on DTG-containing regimens, assessed at baseline, 3, 6, 12, 18, 24, 36, 48, and 60 months.
- 4. To summarize documented clinical events and comorbidities (including hypertension, cardiovascular disease, HIV-related and non-related cancers, weight gain, diabetes, and COVID-19 infection) between January 1, 2016, and December 31, 2021, in patients initiated or switched to DTG-containing regimens, assessed at baseline, 3, 6, 12, 24, 36, 48, and 60 months.

Total Number of Record Reviews Completed: 5,219



The **PRomoting Equity for Pregnant Adolescents in REsearch (PREPARE)** study is a multi-country research initiative focused on addressing ethical questions and uncertainties regarding the inclusion of pregnant adolescents in HIV and coinfections research. The study is funded by the US National Institutes of Health and conducted in collaboration with the University of Northern California at Chapel Hill and the Botswana-Baylor Children's Clinical Centre of Excellence.

Pregnant adolescents are often excluded from HIV prevention and treatment research, with only a few notable exceptions. This exclusion has resulted in significant gaps in the evidence base that inform policy and clinical care decisions. To fill these gaps, the PREPARE study seeks to understand the views and experiences of adolescents who have ever been pregnant and are living with or at risk of HIV. The study will interview these adolescents to gather insights on their perspectives about participating in research. Additionally, interviews will be conducted with a broad range of HIV research stakeholders to explore the inclusion of pregnant and lactating adolescents in the HIV and co-infections research agenda and their participation in clinical trials.

he study completed enrolment in October 2023, enrolling 40 adolescents and 17 stakeholders, who have all been interviewed. A youth advisory board has also been formed to ensure the research remains relevant to and reflective of the needs of the population most directly affected—pregnant adolescents living with HIV.

Coding and analysis is currently underway. Preliminary findings from the study were presented at the **AIDS 2024 conference** in Munich, Germany, in July 2024.

# Medical Audit Protocol

The main purpose of this medical audit is to learn from our experience in managing children with HIV, with the aim of improving the care provided and informing health policy related to the care of children in Botswana. A secondary objective is to share relevant findings with the wider health and medical community.

Several abstracts have been derived from this protocol in an effort to disseminate best clinical practices. Writing and presenting abstracts is one of the key methods used to achieve this goal. These abstracts have been presented at both national and international conferences, with thirteen of them being approved and presented.

Botswana-Baylor Trust was invited by the Ministry of Health to participate in a symposium held on February 8th-9th, 2024, where these abstracts were presented. The theme of the symposium was "Strengthening Implementation Research Capacities of Individuals and Institutions."





Botswana-Baylor stall and attendee accessing displayed material

# CAfGEN Study

The Collaborative African Genomic Network (CAfGEN) study, part of the H3Africa Consortium, aims to establish a collaborative, multidisciplinary, multi-institutional network of scientists, clinicians, and researchers across multiple African countries. This network uses genomics approaches to study gene/pathogen interactions in relation to HIV/AIDS, its co-morbidities, and other diseases affecting diverse pediatric populations in Africa. The study is funded by the U.S. National Institutes of Health.

Although recruitment has ended, the study remains active and continues with training and data analysis. Additionally, more PhD fellows are expected to graduate in the coming year.

# KwashNet

This study will be an international investigation into the genetic etiology of severe acute malnutrition (SAM) in children. It will specifically assess the role of genetics in the development of edematous SAM (ESAM) compared to non-edematous SAM (NESAM). The research will also include an extended analysis of genetic susceptibility to SAM across diverse populations. The study population will consist of males and females aged 6 months to 18 years. KwashNet is expected to begin in 2025.





# DSpace: Utilizing Data Science to Predict and Improve Health Outcomes in Pediatric HIV

This research protocol leverages machine learning (ML) and multi-omics data to improve health outcomes for HIV-infected children in Africa. By integrating longitudinal electronic health records (EHRs) with genomic data, the study aims to predict the risks of metabolic syndrome (MetS) and tuberculosis (TB). The research utilizes data from 118,000 paediatric HIV cases across Botswana, Uganda, and Eswatini. Its goals include developing innovative tools for predicting MetS risk, identifying genetic contributors to MetS, and creating an enhanced TB diagnostic algorithm. By addressing critical gaps in paediatric HIV care, this study has the potential to transform clinical decision-making and influence health policies in resource-limited settings.

We would like to extend our sincere gratitude to our grantmakers for their continued support. A special thank you to Celgene, whose grant was successfully completed in December. We also appreciate the ongoing contributions from the MCM (Medical Care Management) and the NNHF (National Network for Health Foundations) grants, which are currently running. Your partnership is invaluable in helping us achieve our mission and make a meaningful impact.



# BOTSWANA BAYLOR TRUST





