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Figure 1: The Botswana-Baylor Children’s Clinical Centre of Excellence in Gaborone

The Giving Tree

‘In appreciation and gratitude to the Bristol Myers Squibb employees who generously donated to make this Centre a reality’
As we conclude FY2013/14 and look forward to the coming one, I want first to thank all our staff for yet again maintaining outstanding standards as we enter into the second decade since we opened our doors. The results of their combined efforts will be evident in the pages that follow. In short, our annualized mortality and lost to follow-up rates of <1% and <2% respectively, indicate sustained and superlative quality care and patient retention.

Unfortunately, during the reporting period we experienced significant reductions in programmatic support and funding as a number of projects came to an end. This necessitated some re-sizing and laying off of a few otherwise excellent staff. Against this background, it was thrilling to be awarded a research grant in the amount of $3.63 million by the US National Institutes of Health to establish the Collaborative African Genomics Network (CAfGEN) for capacity building and genomics research in HIV and TB disease progression during the period 2014-2017 as part of the H3Africa Initiative. We also received a $100,000 grant by MAC-AIDS to rigorously evaluate a program to reduce intergenerational sex among Batswana school children. I look forward, in the coming years, to reporting on progress made by these two projects.

Our major supporters this past year have been the Government of Botswana, CDC-PEPFAR, NACA, Barclays Bank, BIPAI, Texas Children’s Hospital, Rotary International, MAC-AIDS and the NIH. We cannot thank them enough. Their support gives us courage and renewed hope as we enter this coming year.

Gabriel M Anabwani  
Executive Director
About Our Program

The Botswana-Baylor Children’s Clinical Centre of Excellence (COE) is a public-private partnership between the government of Botswana and the Baylor College of Medicine Baylor International Paediatric AIDS Initiative (BIPAI). Since 2003, the COE has provided free-of-charge, state-of-the-art paediatric HIV care, treatment and support to children throughout Botswana. The services provided at the main clinic in Gaborone and the decentralized outreach sites across the country are based on a comprehensive approach that ensures that children and their families are cared for in the most appropriate way. Currently over 4,000 Batswana children receive care, treatment and support at the COE’s main clinic or at one of its outreach and mentorship sites. The clinic continues to lead the way in the field of paediatric HIV care in Africa and beyond.

Our Vision

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

BIPAI Vision: A healthy and fulfilled life for every HIV infected child and their family.

Our Mission

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

BIPAI Mission: To provide high quality, high impact, highly ethical paediatric and family-centered health care, health professional training, and clinical research, focused on HIV/AIDS, tuberculosis, malaria, malnutrition and other conditions impacting the health and well-being of children and their families worldwide.

Figure 2: Patients waiting for their appointments at the COE
2013-2014 Care and Treatment Highlights

Paediatric Infectious Diseases Clinic (PIDC)

The PIDC at Botswana-Baylor (COE) continues to be busy with average daily attendance exceeding 100 patients, yet it continues to provide unsurpassed care and treatment to all clients. There are currently 2,404 patients on our active follow up list, 55% of whom fall under WHO clinical stage 3 or 4 – meaning moderate or severe HIV disease. The population under our care is composed of 962 young patients aged 12 years and below, 935 patients between the ages of 13 and 18, and 507 patients over 18 years. Our annual mortality rate remains low at 0.6%, due in part to the fact that 91% of our patients on HAART have an undetectable viral load.

The staff in the PIDC continue to assist in the mentoring of visiting scholars, paediatric residents from the University of Botswana, trainee nurse prescribers, and other professionals - e.g. social workers, psychologists, and nutritionists - who come for their attachment in the clinic. The level of satisfaction from both our patients and the trainees rotating through our clinic remains high, as shown by the testimonial from Dr. Kedumetse Moilwa - a first year paediatric resident from the School of Medicine at the University of Botswana, who completed her PIDC rotation at our clinic.

We continue to offer our patients comprehensive, multidisciplinary, world-class care under one roof, with specialties including endocrinology, haematology, oncology and neurology. This year, we were blessed to have a visiting paediatric neurologist, Dr. David Bearden, from the Children’s Hospital of Philadelphia (CHOP) who reviewed and treated 10 patients with neurological problems.

“My first impression about Botswana-Baylor Clinic is that the overall set-up is very conducive for patient care, especially for children, which makes it different and quite unique from other rotations I have been involved in.”

Figure 3: Dr Moilwa in the PIDC consulting room
Highlights, continued

Challenge Clinic

The COE runs the Challenge Clinic for patients who are failing treatment. The clinic has enrolled 60 patients at the COE and more than 100 patients at outreach sites. Through our multidisciplinary team composed of social workers, psychologists, dieticians, nurses and doctors, we explore factors that pose barriers to ARV adherence in individual patients.

We then offer extensive counseling and, if the need arises, we carry out home visits to assess social circumstances that may interfere with adherence to ARV therapy. The retrospective analysis of our data has shown that the home visits favorably impact adherence. All challenge cases at the COE are discussed with our experienced attending physicians and members of the multidisciplinary team.

Screening Clinic

The COE receives referrals from the national HIV prevention of mother-to-child transmission programme for postnatal HIV screening tests at six weeks using dried blood spot HIV DNA PCR (See Table 1).

In addition to DNA PCR testing, we also offer HIV screening to relatives and siblings of our patients - or anybody who voluntarily seeks HIV testing - using the double rapid test (See Table 2).

Those who test positive receive extensive counseling before enrollment in the national antiretroviral (ARV) programme.

Table 1: Number of infants who had HIV DNA PCR testing in 2013/14

| Total number of infants tested | 86 |
| Total number of infants tested HIV negative | 67 |
| Total number of infants tested HIV positive | 6 |
| Total number of infants tested, results still pending | 13 |

Table 2: Number of adults and children who had a double rapid HIV test in 2013/14

| Total number of clients tested | 73 |
| Total number of patients tested HIV negative | 55 |
| Total number of patients tested HIV positive | 18 |
| Total number of patients referred for HAART initiation | 18 |
Highlights, continued

Nurse Prescribers

Nurse prescribers have been the backbone of the clinic since the inception of the nurse prescriber programme five years ago. The programme has compensated for the shortage of doctors in the clinic. We currently have 9 nurses trained in the provision of paediatric HIV/AIDS screening, care and treatment. These nurses see more than half of our stable patients, and patient satisfaction remains high.

Paediatric TB/HIV Project

Our pilot of the Paediatric TB Project, which was funded by the PEPFAR programme since 2007, ended in 2014. In the past six years, the project made serious strides in three fundamental areas geared toward improving the diagnosis of tuberculosis in children in Botswana:

- Improved sputum collection in children
- Expansion of information, education and communication materials, and
- Development of a monitoring and evaluation system, resulting in the compilation of evidence that supports the Paediatric TB diagnostic algorithm.

Our experience and expertise in paediatric sputum induction was shared with other BIPAI COEs in Lesotho and Tanzania as we trained their physicians and nurses.

Sputum Induction Training

During the past year, six sputum induction training workshops were successfully completed, reaching a total of 125 health care workers. Sputum induction was introduced to three new sites: Mahalapye District Hospital, Palapye Primary Hospital and Selibe Phikwe Primary Hospital. In the original pilot sites of Princess Marina Hospital, Letsholathebe II Memorial Hospital, Sekgoma II Memorial Hospital and Nyangabgwe Referral Hospital, Botswana-Baylor staff successfully transitioned sputum induction training responsibilities to trained local staff. In January 2014, the Botswana-Baylor team conducted a four-day sputum induction training for Baylor Lesotho in Maseru, Lesotho. (See Figure 5)

A total of 999 health care workers have been trained in the past six years. (See Table 3)

<table>
<thead>
<tr>
<th>Health Care Discipline</th>
<th>Number Trained (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurses</td>
<td>648 (64.9)</td>
</tr>
<tr>
<td>Health Care Auxiliary</td>
<td>149 (14.9)</td>
</tr>
<tr>
<td>Nursing Students</td>
<td>106 (10.6)</td>
</tr>
<tr>
<td>Doctors</td>
<td>43 (4.3)</td>
</tr>
<tr>
<td>Physiotherapists</td>
<td>23 (2.3)</td>
</tr>
<tr>
<td>Lecturers in Nursing</td>
<td>13 (1.3)</td>
</tr>
<tr>
<td>Others</td>
<td>17 (1.7)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>999 (100.0)</strong></td>
</tr>
</tbody>
</table>
Information, Education and Communication Materials

The Paediatric TB Project produced 15,000 pamphlets and 1,500 posters, all of which were distributed to health care facilities around Botswana by the Botswana-Baylor Clinic in collaboration with the Botswana National TB Programme.

Paediatric TB Diagnostic Algorithm

In March 2014, the Botswana-Baylor team published a program description on the use of sputum induction for the diagnosis of tuberculosis in children in Botswana in the International Journal of Tuberculosis and Lung Diseases. The findings will also be used to support the development of a paediatric TB diagnostic algorithm.

In the last six years, the Botswana-Baylor COE Paediatric TB/HIV Project has achieved a number of important milestones in improving TB diagnostics among children in Botswana. Numerous health care workers have received training in sputum induction and, as a result, many children have been screened and diagnosed with TB using this technique. The team has published their findings in the hope that sharing their experience with the international community will improve paediatric TB treatment worldwide.

Unfortunately, this project will come to an end this year with end of PEPFAR support. The Botswana-Baylor COE is working hard to secure new funding and partnerships to continue and expand this important project.

Figure 5: Baylor Lesotho Health Care workers following sputum induction training by Botswana-Baylor team in Maseru, Lesotho.
Social Work

The social work department continues to coordinate all counseling services, while addressing social welfare issues and the needs of patients and their caregivers. In the past year, no cases of child neglect were reported to the Magistrate’s Courts and there was a significant improvement in adherence levels of children who previously exhibited poor adherence.

This positive change can be attributed in part to changes in attitude and increased sensitivity in caregivers as a result of the provisions made to the Children’s Act of 2009 by the social work department. The act stipulates that any parent, relative or guardian of a child who “unreasonably fails to make adequate provision for the proper health and care of the child” can be fined or imprisoned.

Table 4 shows the number of cases by type attended to by the Social Work Department.

In May 2014, working hand-in-hand with the psychology department, the social work department hosted a group of women from Women of Substance International, a non-governmental organization. The women distributed winter track suits to 90 needy children and toiletry hampers to children 14 and under. The day was fun-filled and included games and healthy mid-day snacks for patients, accompanying caregivers, volunteers and staff of the COE.

Diet and Nutrition

As our COE patient population shifts from infancy to childhood and adolescence, the majority of patients now attend schools where they are provided with two meals a day through the Government School Feeding Programme. For some children, school meals may be their main source of food, therefore during routine dietetic consultation at the COE, caregivers of such children are advised to encourage their children to eat at school in order to safeguard their nutritional health.

In the last year, the Paediatric HIV/AIDS Teacher Training Programme, implemented by the COE, advocated for improved and nutritious meals in schools for all students, regardless of their HIV status, given that these meals form an important component of child energy and nutrient requirements.

The COE also provides nutritional supplements to all children who qualify and are registered with the dietician. In the last year our clinic experienced some challenges relating to consistent supply and cost of supplements, most of which are sourced from the Republic of South Africa.
Highlights, continued

In-reach/Targeted Home-Based Interventions

Due to limited funding, in-reach visits were reduced from five days a week to twice a week. Out of the 185 patients visited, 77 were routine cases, 61 were emergency cases, 44 were lost-to-follow-up, and three were pre-HAART assessments.

Outreach/Clinical Mentorship and Support

With short-term emergency funding from the National AIDS Coordinating Agency (NACA), we were able to continue outreach services to 16 sites from July 2013 to April 2014. During these monthly visits, the outreach team saw a total of 1,875 patients, 879 of whom were failing treatment. Altogether, 215 health professionals were mentored.

![Figure 6: In-reach team on a home visit.](image)

Table 4: Cases attended by Social Work Department 2013-2014

<table>
<thead>
<tr>
<th>Type of cases</th>
<th>&gt;18 years</th>
<th></th>
<th>&lt;18 years</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Supportive counseling</td>
<td>25</td>
<td>24</td>
<td>13</td>
<td>15</td>
<td>77</td>
</tr>
<tr>
<td>Adherence counseling</td>
<td>50</td>
<td>37</td>
<td>19</td>
<td>27</td>
<td>133</td>
</tr>
<tr>
<td>Disclosure issues</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Juvenile delinquency/behavioral issues</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>Child neglect</td>
<td>15</td>
<td>10</td>
<td>1</td>
<td>0</td>
<td>26</td>
</tr>
<tr>
<td>Child abuse</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Child placement</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Career counseling</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Child custody</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
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<tr>
<td>School placement</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Family conflicts</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Domestic violence</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Marriage counseling</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Food and financial insecurity</td>
<td>30</td>
<td>13</td>
<td>4</td>
<td>3</td>
<td>50</td>
</tr>
<tr>
<td>Transport funding</td>
<td>9</td>
<td>10</td>
<td>5</td>
<td>9</td>
<td>33</td>
</tr>
<tr>
<td>Other social benefits</td>
<td>13</td>
<td>12</td>
<td>1</td>
<td>10</td>
<td>36</td>
</tr>
<tr>
<td>Stigma and discrimination</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Referred cases (to other stakeholders)</td>
<td>33</td>
<td>21</td>
<td>2</td>
<td>10</td>
<td>66</td>
</tr>
<tr>
<td>Home visits</td>
<td>8</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Transition</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Deaths</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>202</td>
<td>140</td>
<td>56</td>
<td>86</td>
<td>484</td>
</tr>
</tbody>
</table>

|                                            |           |             |           |             |       |
|                                            | Male      | Female      | Male      | Female      |       |
|                                            | 342       | 142         |           |             |       |
Highlights, continued

Teen Mothers Support Group

The Teen Mothers Support Group helps pregnant adolescents and teen mothers develop appropriate parenting skills through monthly meetings dedicated to topics including family planning, medication adherence, feelings and emotions, sexual and reproductive health, baby care, financial literacy and gender-based violence prevention. There are currently 45 teen mothers enrolled in the support group. Only two babies were born HIV positive and 50% of the mothers are gainfully employed.

This year, the teen mothers have been learning about financial literacy and job readiness, in order to provide them with greater tools to sustain and provide for their new families. From January to June, an NGO called Kagisanong Women’s Shelter facilitated a seven-session gender and gender-based violence workshop to the teen mothers. The workshop covered gender and sex, gender norms in Botswana, power imbalances and their connection to gender-based violence.

Figures 7: Teen mothers receive encouragement and skill training at the Teen Mothers support group.

Multiple Concurrent Partnerships Campaign (MCP)

The Multiple Concurrent Partnerships Campaign was directed at impacting young people’s knowledge, attitude and behavior to reduce multiple concurrent partnerships, cross-generational sex and transactional sex.

Sessions were held once a month at six satellite Teen Club sites and facilitated by a COE MCP Project Coordinator and local peer educators. In total, the anti-MCP messages reached 283 young people through different channels, including focus group discussions and debates, life skills sessions, distribution of informational materials and through edu-tainment.

Funding for the MCP campaign by NACA started in 2009 and came to an end June 2014.
Highlights, continued

Tutoring

Since the introduction of the supplemental tutoring programme in 2010, 153 students have been enrolled and 45 tutors have generously dedicated their time to the improvement of the programme. Subjects that are in demand by tutees include Science, English, Maths, Chemistry and Statistics. According to caregivers of students who have attended at least 5 tutoring sessions in the past year, 75% have improved their knowledge and understanding of their coursework, 88% have improved their personal studying habits, 88% have increased their confidence about their ability to succeed in their coursework, and 63% have already improved their grades.

Camp Hope

The 2014 Camp Hope was postponed from May to December as the Second Africa Youth Games were held in Gaborone this year and, as a result, all potential facilities became unavailable.

Teen Club

As the cornerstone of Baylor’s pioneering adolescent support services, Teen Club continues to unite our adolescent patients. Every month, approximately 125 teenagers congregate at the COE in Gaborone, as well as an additional 142 at our 11 satellite sites around the country. Together, they build support networks and develop life skills to prepare for a healthy and productive adulthood. During the 2013-2014 year, 893 adolescents attended Teen Club events: Gaborone (468), Kasane (21), Mochudi (82), Mahalapye (39), Molepolole (46), Goodhope (33), Ramotswa (38), Palapye (41), Selebi Phikwe (34) and Francistown (91).

In addition to covering HIV-related topics such as medication adherence, stigma and disclosure, Teen Club has developed teen-oriented activities that focus on financial literacy, budgeting, and career preparation. The goal is to encourage teens to think positively about their future choices and opportunities, and to establish good habits that will prepare them for the rest of their lives.

Figures 9-11: Teens gather at the Baylor Bristol-Myers Squibb Phatsimong Adolescent Centre
Education

Education and Training

Education and training are major components of all of our COE programs. Our aim is to expand the pool of health, education and other professionals with the necessary knowledge and skills to effectively identify, treat and care for HIV infected children. During the reporting period, training was provided at pre-service and in-service levels with financial support from the Ministry of Health, the Ministry of Education and Skills Development and CDC-PEPFAR. The main activities were Pediatric KITSO Training, the COE Visiting Scholars Program, Continuing Medical Education series (CMEs) and the national rollout of Teacher Training workshops.

Paediatric KITSO Training

Paediatric KITSO targets physicians, nurses, pharmacists, social workers and other health professionals. The course is conducted over a period of five days at ART sites across Botswana.

Over the last year, 11 pediatric KITSO courses were delivered in target ART sites, reaching 320 professionals drawn mainly from government hospitals and clinics.

In collaboration with the Ministry of Health, the Botswana-Baylor COE evaluated the performance of KITSO trained health workers in 10 health districts. This evaluation demonstrated a need for continued training and refresher training to respond to the evolving treatment needs of children as they transition into adolescence and adulthood.

Education in 2013-2014

The COE provides one-on-one training and group educational events to hundreds of local health care workers each year.

Paediatric KITSO Training

- Clinicians Trained: 320
- Visiting Scholars: 110

Visiting Scholars Program

During 2013/14, 110 medical students, residents, fellows and other health professionals visited the COE from various training programs in Botswana and from around the globe.

Visiting scholars spent most of their time in the COE shadowing and working alongside experienced care providers. They also participated in a lecture series, a condensed version of the week-long Paediatric KITSO Training. Some scholars presented articles at Journal Club or helped with ongoing studies and quality improvement activities.

Visiting scholars also were afforded opportunities to participate in Teen Club activities, work at outreach sites alongside the outreach team, and/or spend time in wards at Princess Marina Hospital.
Education, continued

School Staff Training

School staff training provides pre-service and in-service school teachers with basic information on pediatric HIV/AIDS in order to empower them to provide a supportive school environment for HIV-infected and affected children. The training is implemented in collaboration with the Ministry of Education and Skills Development (MOESD) with funding from the National AIDS Coordinating Agency (NACA).

The training design was informed by the results of the 2011 “Voice Survey”, a cross-sectional psychosocial survey of HIV-infected and affected school-age children in Botswana. To reach all 1,040 schools and five teacher training colleges, the project adopted a cascading training-of-trainers (TOT) model to teach Guidance and Counseling Teachers to educate their colleagues. So far, teachers and school managers have rated the workshops as highly beneficial and recommended that MOESD implement the training to other stakeholders in the school system. Teachers also commented that relevant policies and interventions should be put into practice in order to augment and sustain the effects of the training.

**Figure 10:** A client receives help on geometry homework during a weekend tutor session.

---

**Education in 2013-2014**

**TEACHER TRAINING PROJECT**

- **Master Trainers** 80
- **Guidance and Counselling Teachers** (TOTs) 1,038/1,054 schools
- ** Colleges of Education** 5/5
- **School based workshops** 981
Research & Publications

The COE has continued to carry out research in several aspects of HIV care and treatment in order to inform practice and policies in Botswana and other countries. In response to an ever-increasing number of research projects taking place at the COE, management formed an Institutional Review Board (IRB) to oversee research conducted at the COE and to ensure adherence to the ethical requirements for conducting research using human subjects.

The IRB is composed of seven members, among them two physicians, a psychologist, a dietician, a nurse, a lab technician and a public health specialist. The IRB has recently developed standard operating procedures to guide its work and for conducting research at the COE and has reviewed three protocols.

The COE also formed the Writing and Publications Committee to spearhead the development of abstracts for scientific meetings and manuscripts for publication into peer reviewed scientific journals. The committee also contributes to writing proposals in response to requests for applications (RFAs). The committee is made up of four members: two physicians, a public health specialist and a development officer. The committee oversaw the successful submission of 13 abstracts to the 16th BIPAI Network Meeting.

All research projects are reviewed by the Audit Committee which was formed in compliance with BIPAI policies. Four studies are ongoing:

1. The Collaborative African Genomic Networks (CAfGEN) Study (See page 15)
2. Medical Audit of Patients Registered at the Botswana-Baylor Children’s Clinical Centre of Excellence
3. The Public Health Evaluation (PHE) – Adherence to HAART among HIV-positive adolescents
4. The impact of providing relatively high-risk information by ages and partnership network on sexual behavior of Botswana youth

Three manuscripts were accepted for publication in peer reviewed journals during 2013/2014:


A number of other manuscripts are under review for publication or in preparation for submission for publication.

Collaborative African Genomics Network (CAfGEN)

Over the next three years, the COE will act as the coordinating centre for a study of genetic factors that affect the progression of HIV and TB in children living in sub-Saharan Africa. The COE received a research grant of $4 million from the U.S. National Institutes of Health (NIH) to coordinate the Collaborative African Genomics Network (CAfGEN), made up of the Botswana-Baylor Children's Clinical Centre of Excellence, the University of Botswana, the Baylor Uganda Children's Foundation, Makerere University and Baylor College of Medicine. The grant is part of the Human Heredity and Health in Africa (H3Africa) Initiative that aims to facilitate cutting edge research approaches to the study of genomics and environmental determinants of common diseases with the goal of improving the health of African populations. The H3Africa Initiative will contribute to the development of the necessary expertise among African scientists by establishing collaborative networks of African researchers.

The mission of CAfGEN is to create, as part of the H3Africa Consortium, a collaborative, multi-disciplinary, multi-institutional, inter- and intra-country network of African scientists, clinicians, and researchers to use genomics approaches to study gene/pathogen interactions for HIV/AIDS, its co-morbidities, and other diseases among diverse paediatric African populations. The specific aims of CAfGEN are as follows:

1. Recruit well-phenotyped paediatric HIV and HIV-TB infected patients and create a DNA and RNA biorepository from blood and sputum samples that will be linked to a central clinical database.
2. Evaluate the roles of “established” and novel HIV disease progression alleles in children by sequencing and allelotyping candidate genes and by using whole-exome sequencing in case-control genetic studies of long term non-progressor status.
3. Use integrated studies of clinical outcomes, DNA and paired RNA analysis in HIV/TB co-infected children to identify genes that contribute to the progression to active TB.

4. Enhance undergraduate, graduate and faculty education in genetics/genomics and provide opportunities for long- and short-term training of scientists and technicians from African universities.

5. Establish genetic and genomic technologies and supporting laboratory and physical infrastructure for large-scale genetic/genomic analyses of common diseases in Africa.

Progress to-date includes receipt of 4 out of 5 necessary IRB approvals; finalisation of standard operating procedures (SOPs) in line with H3Africa guidelines; hiring of research staff and completion of preparatory training; purchasing of genomic sequencing equipment; commencement in June 2014 – for the first two candidates from Botswana and Uganda - of a two-year graduate-level Genomics Research Training Program (GRTP) at Baylor College of Medicine in part-fulfillment of PhD degrees; and partnership with the Orrick-Harvard Law and International Development Society (LIDS) to conduct a desk review of relevant literature and compilation of best practices related to the ethical, legal and societal implications (ELSI) of paediatric genomics research. Study participant recruitment commenced in Uganda at the end of June 2014. A Community Advisory Board (CAB) will be activated in August 2014. Plans are also underway to incorporate genomics and ELSI concepts into the Teen Club adolescent life skills education curriculum; conduct educational workshops for community members and the media; and publish a comic book about biomedical and genomics research.
Research & Publications, continued

Presented Research

- Parental Absence from Clinic Predicts Virologic Failure in Adolescents in Botswana
- A Case Series of HIV-Positive Children with HIV-Negative Mothers at the Botswana Baylor COE
- Nevirapine Related Toxic Epidermal Necrolysis in a Resource-Limited Setting: Case Report
- Tools for Success: Equipping HIV-Infected Adolescents to Bridge the Gap Between Paediatric and Adult Healthcare in Resource-Limited Settings
- Knowledge of Fathers HIV Status among Teenage Mothers in Botswana
- Association of Food Insecurity, Socioeconomic Indicators and Body Mass Index among HIV+ Children in Gaborone, Botswana
- Building Capacity for Pediatric Genomics Research in Sub-Saharan Africa: The CAfGEN Experience
- Exploring the Ethical, Legal and Societal Implications of Paediatric Genomics Research in Sub-Saharan Africa: The CAfGEN Experience
- Camp Hope 2.0: Scaling Up Services and Transforming Lives Through Partnership
- Beyond Survival: The Hopes, Expectations and Fears of HIV-Infected Children and Their Caregivers
- Development of a Psychosocial Support and Job Readiness Program for Young Adults Living with HIV/AIDS at Botswana-Baylor Children’s Clinical Centre of Excellence (COE)
- Barriers to Virtual Elimination of Mother-to-Child Transmission of HIV in Resource-Limited Settings: Case Report from Botswana
- Evaluation of Hearing Problems of Perinatally HIV-Infected Children at the Botswana-Baylor COE
Financials
Consolidated Financials

BIPAI Botswana Center of Excellence

(Fiscal year ending June 30 2014)

**BWP**

**INCOME**

- Gross Income: 27,514,224
- Expenses: 22,013,295
- Surplus: 5,500,929

**BALANCE SHEET**

**Assets**

- Non-current: 11,630,820
- Current: 34,244,093
- Total: 45,874,913
Grants and Donations

During 2013-2014, fundraising efforts focused on those projects and programmes whose funding from international and local organizations was coming to an end. These programmes include in-reach and outreach, Camp Hope and recreational patient activities.

We received financial support as follows:

<table>
<thead>
<tr>
<th>Donor</th>
<th>Amount (Pula)</th>
<th>Activity/Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government subvention</td>
<td>6,262,500</td>
<td></td>
</tr>
<tr>
<td>CDC - PEPFAR</td>
<td>5,494,717</td>
<td>Treatment, Care &amp; Support, TB</td>
</tr>
<tr>
<td>NACA</td>
<td>8,195,182</td>
<td>Teacher Training</td>
</tr>
<tr>
<td>NACA</td>
<td>3,190,690</td>
<td>In-Reach/Outreach and Teen Clubs</td>
</tr>
<tr>
<td>NIH</td>
<td>780,920</td>
<td>CAfGEN</td>
</tr>
<tr>
<td>CHOP</td>
<td>691,330</td>
<td>PHE study</td>
</tr>
<tr>
<td>Baylor College of Medicine/Texas Children’s Hospital</td>
<td>453,209</td>
<td>Support for Global Health Corps, Facilities Maintenance and Staff Costs</td>
</tr>
<tr>
<td>Barclays Bank</td>
<td>465,660</td>
<td>Teen Club Activities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>In-Kind Donations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadhurst Primary School</td>
</tr>
<tr>
<td>Free Masons</td>
</tr>
<tr>
<td>Peermont Hotel</td>
</tr>
<tr>
<td>Women of Substance International</td>
</tr>
<tr>
<td>North Side Baptist Church, Texas, US</td>
</tr>
<tr>
<td>Sebegilwe Ooke</td>
</tr>
<tr>
<td>Mabedi Ranna</td>
</tr>
<tr>
<td>Sebegilwe Ooke, Mabedi Ranna and Pinkie Gobuamang</td>
</tr>
</tbody>
</table>