THE AFRICAN PAEDIATRIC FELLOWSHIP PROGRAMME
Department of Paediatrics and Child Health, University of Cape Town

ANNUAL REPORT 2019

Strategic workforce development to strengthen paediatric health care for Africa, in Africa

Credit: Karin Schermbrucker
The African Paediatric Fellowship Programme (APFP) builds paediatric clinical workforce, research and training capacity across sub-Saharan Africa.

Initiated by the Department of Paediatrics and Child Health at the University of Cape Town, and recently joined by U. Kwazulu-Natal and U. Witwatersrand, the programme provides relevant training for African child health professionals, by Africans, within Africa.

Our approach keeps content aligned with local health priorities, and retention of expertise in the continent high, building a generation of clinicians, educators and leaders with the power and commitment to transform child health on the African continent.

Delivering more than direct patient care, alumni impact includes educational opportunity, systems change, research, and policy development on a local, national and international stage.

**WHAT SETS US APART?**

**Long-term strategic partnerships with teaching hospitals:** enable strategic identification of priority specialties for training, and optimal selection of trainees. Partnerships ensure that we do not just boost individuals, but rather build paediatric departments and professional associations, transforming paediatric service provision and supporting the development of independent in-country clinical, health systems and training capacity.

**Context-appropriate training at UCT:** Trainees identified by partner institutions spend 6 months to 4 years training in the Department of Paediatrics and allied disciplines. Curriculae are tailored to student needs, the conditions they face, and the resources available in services at home. This ensures that APFP fellows are giving the best-possible foundation to support a successful transition from training to the practical reality of practicing their specialty in their home settings.

**Alumni support:** The work of the APFP doesn’t stop when a fellow returns home. The relationships built between fellows, supervisors and peers, are an important foundation for future growth. This professional network is critical as fellows start to identify and drive forward new ideas for research and service developments.

**Working towards new training hubs:** As our partners move closer to being able to establish their own, local, paediatric training programmes, the pace at which the paediatric skills deficit can be addressed will increase – with APFP at the centre of a unique ripple effect that has the power to transform thousands of lives.

**WHY TRAIN PAEDIATRIC SPECIALISTS FOR AFRICA?**

- Africa has **24%** of the global disease burden but only **3%** of the world’s health workers
- **10-20%** of children presenting at their local primary health care centre need a higher (specialist) level of health care
- There is less than **1** paediatrician per 100 000 children in sub-Saharan Africa compared to **99** per **100 000** in the USA.
**WHO HAVE WE TRAINED?**
Specialities in Training, 2007 - 2019

- 18 general paediatricians
- 116 paediatric sub-specialists
- 6 paediatric physiotherapists
- 6 paediatric ‘African Hospitalists’
- 1 paediatric electrophysiology technologist

From **14 countries**

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**APFP Alumni: Where Are They Now?**

91% of alumni work in Africa

More than 80% of these work in public facilities.

*This retention is globally unprecedented.*

> **230** scholarly scientific articles by alumni published in the medical literature

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Dr Sibanda, general paediatrics fellow, 2018 - 2021, Zimbabwe

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**APFP (UCT) in Numbers**

2007 – 2019

**91%** of alumni work in Africa

More than **80%** of these work in public facilities.

*This retention is globally unprecedented.*

> **230** scholarly scientific articles by alumni published in the medical literature

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* See p 4 – 8 for series of case studies on neurology graduates

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Dr Sibanda, general paediatrics fellow, 2018 - 2021, Zimbabwe

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**Specialities in Training**

2007 – 2019

- General Paediatrics: 18
- Paediatric Pulmonology: 12
- Paediatric Nephrology: 11
- Paediatric Gastroenterology: 11
- Neonatology: 3
- Paediatric Neurology: 8
- Paediatric Oncology: 7
- Paediatric Critical Care: 7
- Paediatric Infectious Diseases: 6
- Paediatric Surgery: 6
- Paediatric Physiotherapy: 5
- African Hospitalist: 4
- Anaesthetics: 4
- Paediatric Rheumatology: 4
- Developmental Paediatrics: 3
- Paediatric Allergology: 2
- Paediatric Cardiology: 2
- Child & Adolescent Psychiatry: 2
- Medical Genetics: 2
- Emergency Paediatrics: 1
- Urology: 1
- Neurosurgery: 1
- Clinical technology: 1
- Cardiothoracic Surgery: 1
- Paediatric Cardiac surgery: 1

* See p 4 – 8 for series of case studies on neurology graduates
**2019 IN REVIEW**

**TRAINEES AT UCT**

2019 saw the enrolment of 41 fellows: 16 completed their training time and returned to practice in their home countries with 25 continuing to train with APFP in 2020.

**FELLOWSHIPS OF THE COLLEGE OF MEDICINE SA**

12 fellows passed their highly competitive sub-speciality examinations and were admitted as Fellows of the College of Medicine SA.

**CONFERENCE PARTICIPATION**

Fellows participated in over 20 conferences in the course of 2019, including giving presentations at 4 international conferences. Neurodevelopment fellow, Florence Oringe was awarded the Best Junior Researcher award at the UCT Department of Paediatrics Research Day.

**PARTNER ENGAGEMENT**

These activities focussed primarily on Tanzania, Zambia, and Ghana in 2019, with ongoing work including other long-term country partners such as Malawi and Kenya. With 16 sub-speciality trained APFP alumni having returned home, more in the pipeline, and substantial in-country impetus, Ghana is ideally set up to be West Africa’s paediatric sub-specialty training hub: this will drive our partnership’s continued strategy, and is likely to include shifts towards curriculum development support from APFP UCT. Tanzania, in contrast, has made phenomenal strides in the training of general paediatricians in-country, and is now actively pursuing the development of sub-specialities.

**NEW CLINICAL TECHNOLOGY FELLOWSHIP ESTABLISHED**

An MSc scientist from Kenyatta University Hospital was enrolled to pioneer this new fellowship in 2019. He spent six months in the Neurophysiology department at Red Cross Hospital learning how to perform and interpret paediatric EEGs.

**TOP 30 IN THE WHO HEALTH INNOVATION CHALLENGE**

APFP UCT was selected as one of the Top 30 WHO Africa Health Innovation Challenge candidates from a field of over 2300 applications, an award which took us to present the programme at the WHO’s Africa Health Forum in Cape Verde.

**UCT-Ghana TRAINING COLLABORATION**

A set of practical training workshops and lectures focussed on multi-disciplinary care of the critically ill child were developed in collaboration with APFP alumni in Ghana, and in November, an interdisciplinary APFP team travelled to Ghana to co-facilitate these at Komfo Anokye and Korle Bu Teaching Hospitals. Diverse audiences totalling over 150 Ghanaian health workers – doctors, nurses, physiotherapists, occupational therapists, speech therapists – travelled from far and wide to participate in the training.

Interdisciplinary PICU round with Dr Eugene Martey (Komfo Anokye Teaching Hospital, incoming critical care APFP trainee, 2021); Shamiel Salie (Head of PICU, Red Cross Children’s Hospital) & Charlyne Kilba (Ghana Health Service, APFP Critical Care Alumnus)
Neurological diseases in African children differ from those seen elsewhere. Often layered with conditions like HIV, their treatment is especially complex, with common diagnoses including:

- Epilepsy (twice the global prevalence).
- Neuroinfection from malaria, TB and HIV.
- Cerebral palsy (often linked to poor obstetric care).
- Neuroimpairment caused by malnutrition.

Most countries do not have the resources they need to manage this burden of disease. Over and above a failure to prevent conditions, treatment and care is restricted by delayed diagnosis, access to facilities, and a lack of equipment/drugs.

These obstacles are compounded by chronic skill shortages, with studies counting <150 child neurologists across the continent for a population of over 600 million children. Instead, care is delivered by adult physicians with limited training in paediatrics – and, often, neurology.

The World Health Organisation (WHO) recommends one specialist neurologist per 100,000 children. The APFP supports this ambition and is working to build a critical mass of clinical and training expertise for paediatric neurology in Africa.

Each a catalyst for long-term change, the following case studies showcase the difference a single APFP fellow can make...

10% of children are affected by neurodisability... ...most live in Africa
INTRODUCING DR. SEBUNYA

When he returned home in August 2019, Dr Sebunya became Uganda’s fourth paediatric neurologist. Based at the St Francis Hospital, Nsambya, not only does he continue to work in general paediatrics, he is a pioneer of specialist services for children with neurological disorders.

POLICY PLANNING...

Paediatric neurology services in Uganda are limited, with children often referred to traditional healers or psychiatrists for care. According to Dr Sebunya, this can stem from the belief that such conditions are the result of witchcraft or possession – rather than a clinical diagnosis. It is an issue that motivated Dr Sebunya to specialise in paediatric neurology, and is one of the first areas he wants use his APFP training to address:

COMMUNITY OUTREACH

As service demand increases, Dr Sebunya wants to make sure the resources are there to meet it. So he uses his new skills to bring specialist care to the St Francis Hospital.

NEW SPECIALIST SERVICES

Many of the children Dr Sebunya sees have been referred too late. Too often, their condition has progressed and caused irreversible damage. Prevention and early diagnosis is key. That is why Dr Sebunya plans to use social media, the radio and TV to raise awareness around the risk and reality of neurological disorders in children.

“My management approach to many general paediatrics and neurological clinical conditions has changed a lot for the better. I have also learned about many new, rarer disease conditions. My teachers were among the best I have ever came across! I am replicating what I learned from them.”

Taking referrals from across departments, Dr Sebunya has also launched a new neurology clinic. Open every Friday, the clinic saw 80-100 patients in its first four months. It now sees up to 20 patients a week. Thanks to his training, Dr Sebunya can also offer EEG testing and MRI scanning. Nerve conduction studies is next on the list.

“Even the very educated still don’t believe. People don’t believe there is a medical condition that exists. It is witchcraft. We have a long way to go.”

BUILDING TRAINING EXPERTISE

Dr Sebunya also teaches at the medical school in Nsambya and Makerere University College of Health Sciences. Focussed on post-graduate paediatrics, he has integrated modules and clinical rotations on child neurology - giving students first-hand experience of cases that wasn’t available before. He is also a faculty member for the Paediatric Epilepsy Training (PET) Ugandan Chapter, running a course for 25 delegates just weeks after returning home. Looking forward, Dr Sebunya also plans to introduce a short course in paediatric neurology – building capacity for professional development in-country and improving local case management.

A NETWORK OF CLINICAL EXPERTISE

As the eighth APFP fellow to qualify in paediatric neurology, Dr Sebunya is working to build informal connections using technologies like WhatsApp, so that alumni can quickly draw on each other’s skills, experience and clinical expertise. He also joins his peers in a number of professional groups and activities, including the International League Against Epilepsy, PET training and cross-country research, an area in which he is keen to do more.

ON HIS TRAINING WITH THE APFP...

“The course was so so so helpful. I got to see a lot of things that I had never seen. But actually, the eye sees what it knows. These conditions were here at home! We didn’t know. APFP helped me appreciate child neurology... There are many conditions that are now being solved, in the blink of an eye, that wouldn’t have been solved before.”
A SPOTLIGHT ON DR. HAMMOND

Qualifying as a doctor in 2002, Dr Hammond trained with the APFP between 2014-17. Based at the Komfo Anokye Teaching Hospital (KATH) in Kumasi, Ghana, he is one of 11 alumni selected by the hospital for training with the APFP – part of its ongoing plan to develop a multi-disciplinary, sub-specialist paediatric team.

SINCE HIS RETURN...

The second paediatric neurologist in the country, Dr Hammond’s department is the only one for families living in the central and northern parts of the country. Today his team manage an estimated 600 in-patient and 2,000 out-patient visits a year. Caseload most often includes epilepsy and cerebral palsy, but infections like encephalitis, cerebral malaria and meningitis are not uncommon. Since his return, Dr Hammond has led on a number of critical service developments including:

- IMPROVED PATIENT CARE

Dr Hammond has catalysed improvements in the treatment and management of common neurological conditions. He also notes an increase in the diagnosis of children with developmental conditions like autism and other, rarer, neurological disorders.

“My understanding of patient conditions has improved maybe over 100-fold... Even with common conditions, the clinical care has improved tremendously. I am also seeing rare conditions. Conditions that previously I wouldn’t think of.”

- EXPANDED EEG TESTING

In 2019 Dr Hammond went on to expand and run the hospital’s first EEG clinic – one of just two for the whole of Ghana, and used to improve the diagnosis and treatment of conditions like epilepsy. Previously, it operated remotely, with readings sent to a centre in North America for analysis (a door opened by colleagues at the APFP). A second EEG machine was donated in April 2019. Thanks to his training with the APFP, these services are now in-house – with the clinic seeing 30-35 cases a month.

- EDUCATION AND TRAINING

As well as building team capacity at KATH, Dr Hammond lectures at the University of Science and Technology, delivering generalist training and handling neurological aspects of the course. In 2018, he also took on the role of Country Lead for the delivery of Paediatric Epilepsy Training (PET). Organised by the British Paediatric Neurology Association and Paediatric Society of Ghana, this initiative has already trained a network of more than 200 in-country doctors.

- RESEARCH AND ADVOCACY

Winner of the 2017 Bernard D’Souza Award, Dr Hammond is a member of six professional groups to further the agenda of paediatric neurologists at national and international levels - and provides crucial African representation on each. These include the International League Against Epilepsy where he is part of a taskforce to increase the availability of generic medication. He is also collaborating with the WHO on a project to understand the neurological impact of kangaroo care on children – and has more research in the pipeline.

ON HIS TRAINING WITH THE APFP...

“We share similar resource constraints with South Africa... That is the big plus for anyone working in my environment to train with the APFP. It makes you able to work where you are originally from. Training in other parts of the world coming back to settings like mine you have challenges... But I had mentors who understand the terrain, where I’ll be heading back to. They knew exactly what I was going to face”.
INTRODUCING DR. KIJA

The largest referral hospital in Tanzania, the Muhimbili National Hospital in Dar Es Salaam is a leading centre for paediatric neurological care. The first of two sub-specialist neurologists referred for APFP training by the hospital, Dr Kija’s return was eagerly anticipated:

“When I came back they were waiting for me... I was very enthusiastic. Most of the things I learned in South Africa I knew I could implement at home. There were a lot of things I knew I could improve.”

Graduating in 2015, during his time with the APFP Dr Kija developed the clinical, leadership and management skills he would need to drive long-term change.

DEDICATED NEUROLOGICAL SERVICES

The past three years have seen Dr Kija set-up a dedicated service for children with neurological conditions. Supported by a team of six doctors and up to four nurses at any one time, their eight paediatric beds are always full- with the team managing 600 in-patient and 5,000 out-patient visits every year. Every second child Dr Kija and his team see presents with either epilepsy or cerebral palsy. They are in the right place.

COUNTRY-LEADING CARE

Dr Kija has worked to expand EEG services from short to long-term testing. Determined to mirror standards at the Red Cross Children’s Hospital, he also helped his team of EEG technicians access formal online training. This improved EEG testing service joins an impressive array of existing neurological facilities - from neuroimaging and MRI scanning, to laboratory, screening and rehabilitative services. There is nowhere else like it in Tanzania.

A NEW MULTI-DISCIPLINARY CLINIC

Building on the above, 2017 saw Dr Kija join forces with another APFP alumnus to launch a new multidisciplinary out-patient clinic for patients with neuro-muscular disorders. Unique in bringing neurologists, physiotherapists, occupational therapists and speech therapists together, it runs at least once a month and sees 5-10 patients each time.

FROM CONSULTANT TO EDUCATOR

Dr Kija was the first Tanzanian to be trained as a Paediatric Epilepsy Training (PET) facilitator, leading two courses in 2018 and another in 2019. Having reached 120 doctors so far, the next session is planned for 2020. As a Senior Lecturer at the Muhimbili University of Health and Allied Sciences Dr Kija is helping to train a new generation of paediatricians and also supervises 3-5 Masters students a year.

PIONEERING LONG-TERM CHANGE

Since returning from the APFP, not only has Dr Kija won the 2016 Bernard D’Souza award, he has contributed to the development of national guidelines for the management of paediatric diseases – advocating expanded guidance and standards in neurological care. He is a member of three national professional groups, is on various task forces for the International League of Epilepsy, and is a member of the executive board for the International Child Neurology Association. Like many APFP fellows, he is also involved in national, and multi-country research projects. This includes a new programme to build an in-depth picture of child onset epilepsy in Tanzania – a critical baseline for service and policy development.

ON HIS TRAINING WITH THE APFP...

“The experience that the APFP provides is very useful in terms of preparing fellows when they go back to implement what they’ve learned. You don’t just learn clinical skills. It also helps you learn the management side of it, how to mobilise resources. That I think is a useful skill.”

Graduating in 2015, during his time with the APFP Dr Kija developed the clinical, leadership and management skills he would need to drive long-term change.
CLOSING THE GAP

Working at Gertrude’s new child development unit, Dr Samia applied to the APFP after seeing an important gap in clinical skills:

“They relied on an outsourced consultant. I saw a huge need. I was very aware of how limited my own knowledge and experience was. I was keen to get full credentials.”

MEET DR. SAMIA

Dr Samia is one of the first fellows to have trained with the APFP. Graduating in 2009, she came to us from Gertrude’s Children’s Hospital, but has worked at the Aga Khan University Hospital since 2011. She will soon be joined by Dr Oyieke - the centre’s second specialist paediatric neurologist. Together, they are two of nine APFP alumni based at the hospital.

A DECADE OF DEVELOPMENT

10 years since returning from the APFP, the ability to provide children with high-quality, clinical care is one of Dr Samia’s biggest achievements.

Working across multiple wards, she sees 3-4 neurological in-patients every day, and 250 out-patients a month. They don’t only come from Kenya. Often Dr Samia is examining children referred from hospitals in Uganda, Rwanda and Ethiopia.

“The fact that we can run this service - it’s not for the country, it’s for the region.”

A NEW IN-COUNTRY FELLOWSHIP

Dr Samia looks forward to a day when these centres have the resources to manage more cases in-country. That’s why she is working with the Aga Khan University Hospital to launch their own fellowship for paediatric neurologists. In planning since 2014, the programme launches in 2020 and will start by training at least two fellows a year, more if the funding can be found. Once established, Dr Samia wants Aga Khan’s fellowships to cater for other sub-specialities and health worker cadres- including children’s nurses. Only then can optimal care ultimately be provided.

ADVOCATING FOR CHILDREN’S RIGHTS

In addition to direct care, Dr Samia also strives to raise public awareness of neurological conditions, particularly among parents and family groups:

“Public awareness and knowledge in our set up is really poor. We’ve spent the last 10 years trying to improve education for doctors, but we also need to carry the parents with us... The parents, they too can push for the things children need, that we do not have, but they deserve.”

An advocate for child rights, Dr Samia is also on the International League Against Epilepsy Paediatric Commission and International Child Neurology Association Executive Board. She also co-founded the Eastern Africa Academy of Childhood Disability – a regional faction of a larger, global movement. Having expanded membership to include Sudan, South Sudan and Djibouti, this team of dedicated professionals meet annually to forward their agenda and advocate the rights of children with disabilities.

LOOKING FORWARD

In the next five years, Dr Samia wants to see the Aga Khan centre realise its vision to build a specialist children’s hospital – one with the facility to offer every single speciality. She also wants to do more, collaborative research. Dr Samia is already working with her fellow APFP alumni to understand the status of paediatric epilepsy research in Africa. But this is just the start. There is so much more that needs to be done.
APFP alumni are highly skilled clinical specialists, educators, researchers, advocates and leaders - a powerful force for long-term change. Delivering more than direct patient care, as these four case studies highlight, their impact has grown to include educational opportunity, systems change, research and policy development on a local, national and international stage.

“Together their stories represent an active and energetic collective transforming the level and quality of care for children in Africa.”
Professor J. Wilmshurst, APFP Director

But whilst Africa’s pool of paediatric specialists has grown in the last 10 years, the world is still a long way from WHO’s targets. The APFP is proud to support this ambition and will continue to build both a critical mass of clinical expertise and partner capacity for the delivery of local, in-country training programmes.

As these achievements take place, the pace at which the paediatric skills deficit can be addressed will increase – with the APFP at the centre of a unique ripple effect that has the power to transform thousands of lives.

TOGETHER WE CAN BUILD A WORKFORCE FOR SPECIALIST CHILD HEALTHCARE IN AFRICA.

WITH THANKS
Children’s Hospital Trust SA
Children’s Hospital Trust UK
Children’s Hospital Foundation
German Academic Exchange Service (DAAD)
Great Ormond Street Hospital Anaesthetics Department
Green Leaves Education Foundation
Harry Crossley Family Foundation
International Society of Paediatric Nephrology (IPNA)
Mauerberger Foundation Fund
Peter Gilgan Foundation
The ELMA Foundation
## Expenditure Report, January - December 2019

### Budget by Line Item (ZAR)

<table>
<thead>
<tr>
<th>Personnel</th>
<th>Approved Budget FY2019</th>
<th>Actual Spend FY2019</th>
<th>Variance</th>
<th>% Variance</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>Medical Specialist Fellowships</td>
<td>9 170 066</td>
<td>7 384 680</td>
<td>1 785 385</td>
<td>19%</td>
<td>Underspend due primarily to delays in start dates of some trainees</td>
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<tr>
<td>Tuition</td>
<td>606 054</td>
<td>355 046</td>
<td>251 008</td>
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<td>Internal Academic Fees</td>
<td>123 750</td>
<td>105 000</td>
<td>18 750</td>
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<td>Specialist Exam Fees</td>
<td>170 180</td>
<td>149 452</td>
<td>20 728</td>
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<td>Fees for Professional Bodies</td>
<td>381 885</td>
<td>203 042</td>
<td>178 843</td>
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<td>Stipend</td>
<td>7 423 655</td>
<td>6 372 525</td>
<td>1 051 130</td>
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<tr>
<td>Travel</td>
<td>464 541</td>
<td>199 614</td>
<td>264 927</td>
<td>57%</td>
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<td>Paediatric Clinical Technologist Fellowships</td>
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<td>3 01 054</td>
<td>4 644</td>
<td>2%</td>
<td>Routine negotiations of discounts. Fellows apply for scholarships where available.</td>
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<td>Africa Hospitalist Fellowships</td>
<td>489 172</td>
<td>452 249</td>
<td>36 922</td>
<td>8%</td>
<td></td>
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<tr>
<td>Congresses &amp; Training courses</td>
<td>328 500</td>
<td>123 046</td>
<td>205 454</td>
<td>63%</td>
<td></td>
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<td>UCT APFP visits to partner institutions</td>
<td>293 038</td>
<td>209 350</td>
<td>83 688</td>
<td>29%</td>
<td>Savings through cross-subsidisation of trips combining activities from other projects/initiatives.</td>
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<td>Partner &amp; Alumni visits to UCT APFP</td>
<td>78 202</td>
<td>77 927</td>
<td>275</td>
<td>0%</td>
<td>Meetings conducted remotely. Face-to-Face meetings covered by other funded activities.</td>
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<td>SA training sites partner meetings</td>
<td>21 000</td>
<td>-</td>
<td>21 000</td>
<td>100%</td>
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<tr>
<td>Operating Costs</td>
<td>275 206</td>
<td>98 988</td>
<td>178 218</td>
<td>65%</td>
<td>Major line-item allocation for website and database development – not feasible in 2019. Contingency allocation not required.</td>
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<td>IT Peripherals and Equipment</td>
<td>30 000</td>
<td>5 214</td>
<td>24 786</td>
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<tr>
<td>Total Project Cost</td>
<td>13 323 929</td>
<td>10 592 549</td>
<td>2 731 379</td>
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