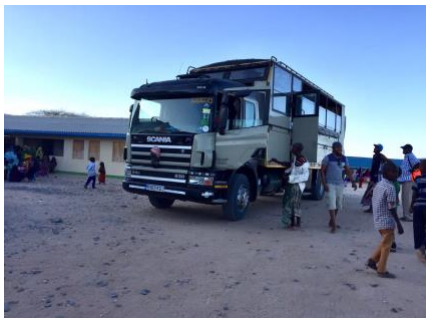

MEAK
MEDICAL & EDUCATIONAL AID TO KENYA

Report for Fondation Eagle:
Medical and Educational Aid to Kenya - Eye & Dental mission
Oropoi & Kaikor, Turkana County, Kenya
August 31st – September 12th, 2018

Donor:

Fondation Eagle, Switzerland

Donor's Reference: FF 451

Date of Donation:

April 2018

Amount of Donation:

$32,057.44

Dates of mission:

Pre-screen – August 2018

Surgical mission (eye & dental) – 31/8/18 to 12/9/18

Post-surgical review – October 2018

Patients already pre-screened having their eyes tested in Lopiding Hospital grounds

Summary of achievements - Eyes

- Total number of eye patients screened & reviewed, including school children = 1499
- Total number of cataract operations to restore sight = 126
- Other operations facilitated = 2 orthopaedic patients, 1 snakebite treated
- Medication used, including pain relief and antibiotic eye drops dispensed >1000 items
- Pairs of reading glasses dispensed = 200
- Pairs of sunglasses dispensed = 150

'Cranford' 134 Welcomes Road Kenley Surrey England CR8 5HH

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Registered Charity No 1093115

Summary of achievements - Dentistry

- Total number of patients screened & reviewed = 357
- Total number of extractions performed = 298

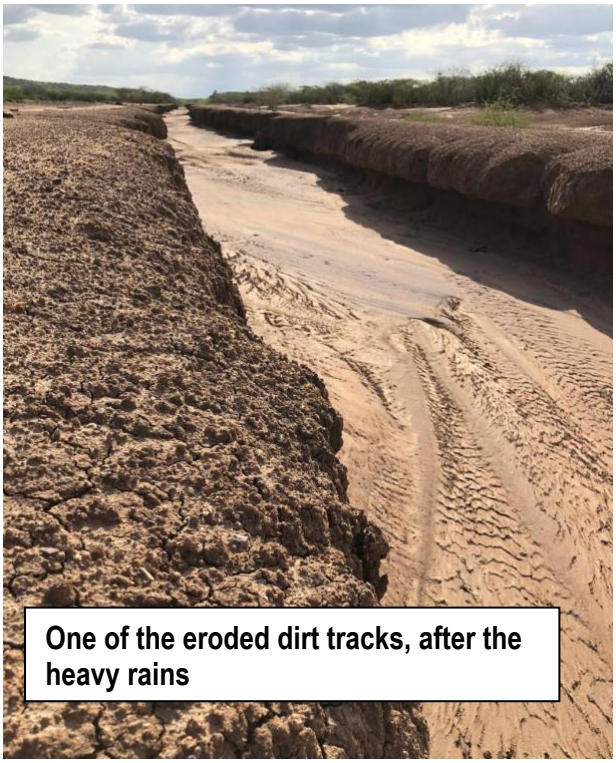
Trip Summary:

This was a very successful eye & dental mission with nearly 2000 eye & dental patients reviewed & 325 patients benefitting from either eye or dental surgery. In addition to this, many patients benefitted from:

- The distribution of medication to treat eye infections;
- Eye tests to diagnose presbyopia for which easy reader magnifying reading glasses were dispensed;
- Dark sunglasses were distributed to many pastoralists who complained of difficulty seeing due to suffering from glare from the bright sunlight. The wearing of sunglasses also has the added benefit of protecting the eyes from dust and flies, all potential causes of eye infections and early cataract formation; &
- Eye & dental health care messages from the MEAK team, including a visit to the local primary school from representatives from the eye and dentistry teams.

As with all MEAK missions this mission was planned in conjunction with the Turkana county Ministry of Health, the county regional coordinator & the tribal chiefs. There was excellent engagement from the local community & county resulting in the community embracing the project.

One limiting factor to patient recruitment and the probable explanation as to why recruitment was less than some missions, where the numbers can top 2500, is that the terrain is extremely difficult to mobilise patients. The "roads" are mostly dirt tracks through the bush, which have been significantly eroded & pot-holed due to recent heavy rains. It doesn't rain much here, but when it does rain, it is torrential. When the dirt tracks are wet, they are slippery, dangerous and impassable. We were extremely lucky that it did not rain during the mission, which would have significantly impacted the work we would have been able to do.



One of the eroded dirt tracks, after the heavy rains

Samson Lokele, the regional coordinator and our liaison, together with Charles, an ophthalmic officer from Lokichoggio pre-screened over a 120km radius around the Oropoi township over a two-week period prior to the mission commencing. This was an effective screening method, plus it allowed the county Ministry of Health to document the prevalence of eye lesions in the community at the same time. The people in the community who were diagnosed as needing either cataract surgery or a review by the eye team were then asked to get to a certain point on a more major dirt track where they could be collected by one of the 4WD vehicles or to get themselves to the Lopiding Hospital where they could be accommodated for a few days if they arrived ahead of the team & then transferred. Practically, this is a very effective way of mobilising patients from the surrounding areas as to collect them individually to bring them to the Oropoi medical clinic would have been be a very time-consuming, & wasteful of expensive diesel process. It would have also meant that the level of the patient recruitment

would have been quite low, which would have been a shame as the documented prevalence of eye conditions is very high in this area.

The level of engagement & collaboration with the local medical officers was outstanding on this trip. For example:

- Dr Kipsang, the county ophthalmic surgeon (1 for the entire county) attended for the full mission & performed surgery together with our eye team. He is from the local area, which had the added advantage of him speaking the local Turkana language to converse with the patients.
- Two of the medical eye officers from Moyale county, Wako & Yusuf also attended the mission. They worked with the MEAK team on the mission to Moyale that was held in July. They wanted to work more with the eye team & improve their clinical skills, which is brilliant;
- For the Tarsal plate rotation operations an additional surgeon arrived to work with the MEAK team who was initially observing cases & then she showing the team how she operates on these patients in an excellent example of cross-collaboration to update & improve skills, just as we would do in the UK.

Valuable insight into the patient recruitment process was provided by the local surgeon, Dr Kipsang. The majority of the patients in this area are nomadic pastoralists, constantly on the move looking for water & grazing for their cattle. Once a patient has been identified as needing surgery every effort must be made to ensure that the patient will have their surgery on this visit, as they will be very difficult to locate again as they are constantly on the move. He explained that the threshold for wanting cataract surgery is actually quite high in this area. A patient with low vision in this environment may actually not require a high level of visual acuity. For example, if he only has to count his cows each day, rather than be able to read, his threshold to attend a surgical mission will be quite high. However, once the 'smoke in the eyes' from the cataracts worsens & he can no longer count his cows, he will want the surgery & attend. Fear of the operation is a problem for recruitment, but once a patient who has had cataract surgery in 1 eye & has had a good result, he or she will have a much lower threshold to have the surgery on the other eye.

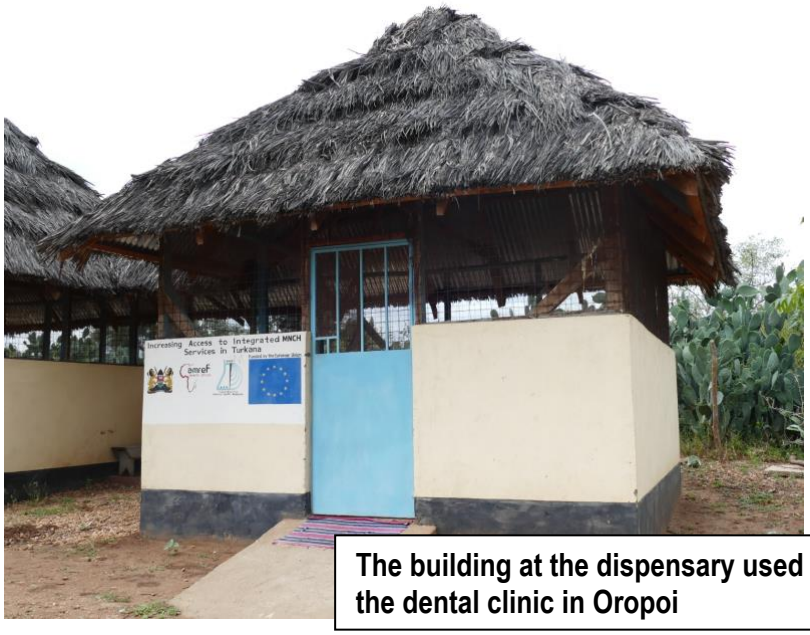
Eye screening in the field

Once the eye and dental teams had treated the patients in Oropoi the team moved on Kaikor,

a 6hour drive from Oropoi, despite only being 250km away. The local team told us that we would find more patients who needed eye & dental treatment there & this was indeed the case. The teams set up a theatre area alongside the medical clinic where they continued to assess patients that were recruited from the surrounding area. Unfortunately, many members of the team became quite unwell, due most likely to contaminated water. Despite suffering for a few days, the members of the team who were not affected carried on & continued to treat those who needed help, fully realising that these people would not get any treatment in the near future if it was not for the MEAK team being there to treat them.

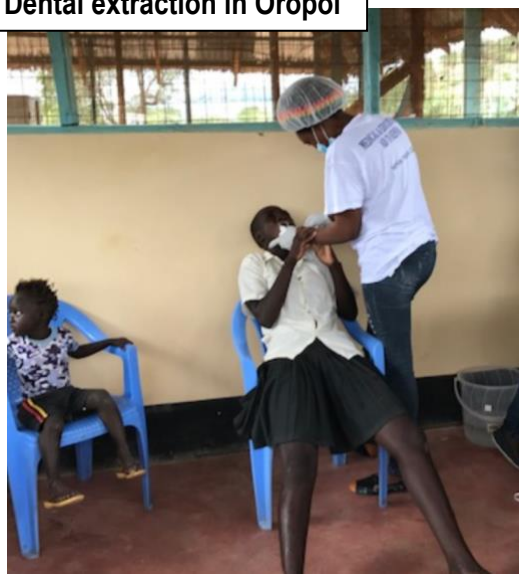
Unusually for the dentistry team, they were not particularly busy in Oropoi. There were a handful of people milling around the dispensary complex each morning, but not many required extractions after their dental examinations.

We did notice that many people walking around the area of the camp were chewing on their 'toothbrushes', twigs from a tree known as the 'toothbrush tree' or Neem tree. The twigs from this tree, in particular the bark, are reported to have qualities that prevent gum disease and tooth decay. Perhaps this was the reason we did not see as many patients as we are used to.

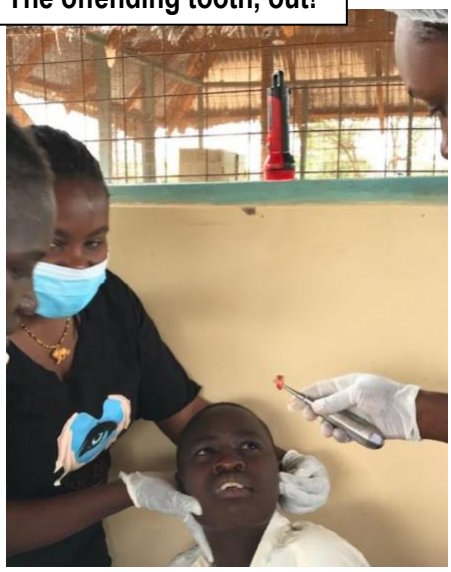


The building at the dispensary used for the dental clinic in Oropoi

Dental extraction in Oropoi



The offending tooth, out!



It was a different story however when the team reached Kaikor. There were considerably more patients presenting with dental pain and many more extractions were performed on this part of the mission.

Unfortunately, the dental team were also without their reclining dental chair, which had been burnt in a fire in the storage facility in Nairobi, hence the use of a normal plastic which you can see in the photos above.

In summary, despite the hardships & the possible success-limiting situations described above, the mission was very successful. As always, success is a team effort & MEAK would like to thank:

- Fondation Eagle for their generous sponsorship, without whom this mission would have not gone ahead, leaving so many local people to continue to suffer;
- Nargis Kasmani for her tireless work in setting up & organising this mission;
- The MEAK eye & dental teams who always display a wonderful work ethic and great skill; &
- The Turkana County ministry of health, the drivers & the cooks from Bunduz, who as always have worked long hours & without complaint to facilitate the success of the mission

On an extremely positive note, the mission was attended by a filmmaker who documented the mission in a wonderful short film, which is included in this submission. We had the idea of following a patient from screening to post-operative period to document their journey on film. What unfolded was a wonderful story that beautifully illustrates how restoring sight completely illuminates a person's world. The film also documents the journey the several other utterly neglected patients who were found by MEAK. Despite not having eye or dental problems they were in desperate need of medical attention, which MEAK provided, which in turn restored dignity and hope.

Excerpts from MEAK Trustee Alex Savis' Mission Diary, Days 1- 4:

Friday, 31st August: Travel day

We arrived in Nairobi feeling smug as we raced to the Visa desk and were the first ones in the queue! Massive result as this process can take hours.

Elation turned to sadness on hearing from Stephen, our filmmaker flying in from Paris. One of his 3 bags had not arrived & worse still, his remaining two cases have been broken into and all the lenses for his cameras have been stolen. Disaster. One frantic phone call to the owner of Tropic Air at 11pm at night & our flight is pushed back 2.5 hours to 11:30am tomorrow to give Stephen time to try & replace the lenses at one of the photography shops in Nairobi. We are hopeful as many people come here to photograph the 'Big 5' so the shops should have some supplies. Without a lens, there will be no film and Stephen will fly back to Paris.

We arrive at the East Africa Aero Club at Wilson Airport & meet with the wonderful Nargis and try and get some sleep (difficult as we all want to talk) before the start of the mission. It is already well past midnight.

Saturday, 1st September: Day 1

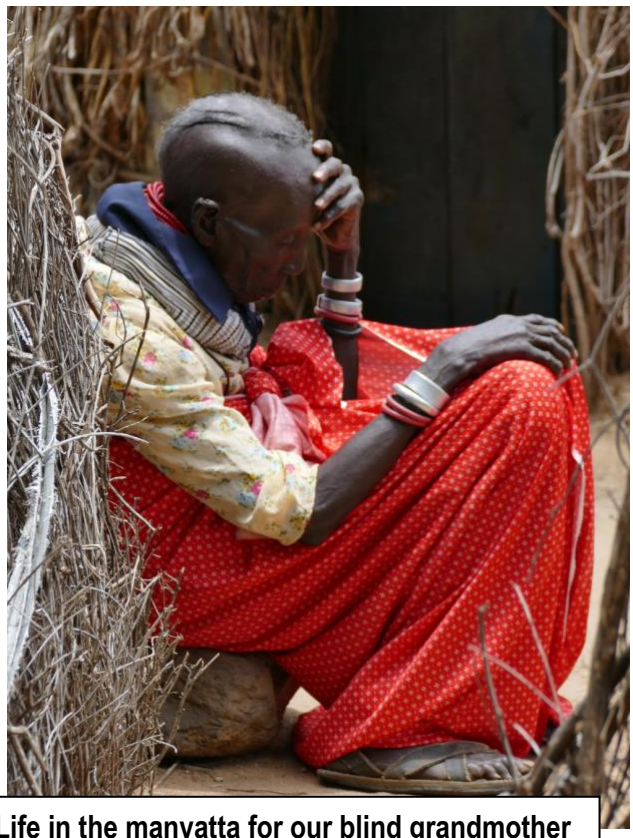
Stephen has a lens! There are 3 camera shops and the last of the 3 had one! We will now have a film! Everyone is relieved. We meet Eston, our pilot at Wilson & the 4 of us are soon flying high over lake Baringo & the parched earth before reaching Lokichoggio in Turkana a
few hours later. We then begin the 1.5hour drive to Oropoi, partially over a tarmacked road
but then on the very rough dirt road through the bush to the Oropoi dispensary.

When we arrive, the camp is fully set up & much more impressive than I have experienced than on previous missions. There is a large mess tent complete with a cook, burners & kitchen hands finely slicing cabbage for the salad to go with dinner. As I will witness over the week, this area is in constant motion. The kitchen team are responsible for cooking all the meals for the patients & the team in this area. Along with the birdsong, the kitchen is the first thing I

hear in the morning & the last thing I hear at night. We are going to eat well. I did not need to pack so many packets of peanuts and raisins, I am clearly not going to need them!

Sunday, 2nd September: Day 2

Today we are going to meet our bilaterally blind sho sho (elderly grandmother) who Samson has identified & film her in her home to document what it is like to be blind in a community like this. The plan is that we will then follow her journey to the hospital, her operation & her new life back at the manyatta.



Life in the manyatta for our blind grandmother

We spent 4 hours at the manyatta documenting her life & it was fascinating. She sits around all day on a small stone, praying for her eyes to be fixed. She cannot mind children, pick fruits or tend to the few goats they have. She has to be led to the cho (toilet). She feels her way between the boma (hut) where she rests with one daughter & to the boma opposite where she sleeps with the other daughter and her family.

We were privileged enough to go inside the bomas. They were spotless. The dirt floor was swept. Clean goatskins were on the floor in one corner. On the wall there was attached a crumbling coke crate. In the coke crate was a chipped tin mug. This was hers for water & her daily mug of sorghum porridge, her only meal. There was the rusty carcass of an old camp bed, which was topped in places with small pieces of chipboard, to provide additional seating. In the other boma there were all the accoutrements of daily life. Cow skin vessels for holding water & wooden vessels, hollowed out from knots in the trees for containing milk, in the days when the community had cows. They lost their cows many years ago when they were stolen by armed raiders from across the South Sudan border. This has undoubtedly contributed to their poverty. Despite this, the babies all looked bonny & many small children who followed us around found us both fascinating & a great source of hilarity were all bright & cheerful. The location of the manyatta close to the town reflects both the loss of their nomadic life (with no cows there is no need to constantly find new sources of pasture and water) & the need for hand-outs from the many NGOs who pass through Lokichoggio.

Monday, 3rd September: Day 3

Dee & some of the team go out in the big Land Cruiser to fetch some pre-screened patients from Lopiding Hospital in Lokichoggio as Charles, the local ophthalmic officer informed us yesterday that 15 patients will arrive this morning. They return with 14 patients, but after a long time has elapsed, much longer than the usual 3hour round trip. This is because the process has been interrupted by taking a small girl with a recent snakebite to hospital. She stepped on the snake in the dark this morning & did not see what kind of snake it was, only describing it as 'dark'. This will be a problem for administering the anti-venom. She begins to deteriorate in the vehicle & is admitted to Lopiding hospital. We can only hope that she will be OK.

A slow day clinically as the delay in patients getting to us has meant that we are only able to

treat walk-ins, but they arrive at a steady pace. Some to see the dentist, some to see the eye team with various complaints. Some teenage boys have eye tests which show 20/20 vision, but they complain of being affected by the glare. They leave with a pair of sunglasses each & look pretty pleased with the results. I wonder if we will get more teenage boys arriving over the next week who would like to look as cool as their early-adopting friends.

I walk up to the dispensary to see the dental team again, desperate to get some good photos of them in action. These girls are always frantically busy but we have so little photographic evidence of them at work. I am carrying my book as I am hopeful I might get a quick few pages in between patients. On my walk I bump into a lovely girl who speaks to me in Swahili. I sheepishly tell her I don't speak Swahili, only English. To which she tells me in English that she is able to read, but that she cannot now as all the words have become 'black'. I tell her to come with me and immediately turn around & head back to the eye camp. She had her eyes tested & as predicted by Dr Kipsang, she has presbyopia. He asks me to give her my book to see what she can read. I give it to her & she manages to only read the title. She puts on a pair of +1.75 easy readers & then starts to read the fine print of the chapters. She is delighted & probably ended up reading more of my book that afternoon than I did.

One older Mama arrives with her chubby 6month baby who is obviously bilaterally blind. One eye has pus streaming from it & the other eye has dried discharge caking the lashes. On taking a history, the baby has suffered repeated eye infections from birth which has resulted in extensive corneal scarring and ultimately the loss of vision. This is devastating to me, coming from the UK & I suspect to anyone who comes from an urban centre, Kenya included. For starters, it would be rare for a baby to contract an eye infection in an urban centre as there are less flies & dirt & easy access to water for face-washing. However, if a baby did contract one, they would be promptly whisked to the doctor & ointment prescribe which would clear it up within a few days. End of story. Out here it couldn't be more different.

When I finally make it to the dispensary a few hours later I notice a hand-drawn map on the wall, showing the 'micro-geography' of Oropoi. I notice that there is a primary school on the map. I speak to the dental team & ask them if they routinely speak to school children about oral health. They do, which is great, so we arrange to do this on Thursday. After seeing the blind baby I immediately liaise with Nargis to send one of the eye team to the primary school too. It is often the children that end up teaching the parents in these communities as they are the ones who are being educated at a level well beyond what their parents were.

I talk with Dr Kipsang, the County ophthalmic surgeon. I had noticed a refraction set in Lopiding & I wanted to know more about the possibility for refraction for our patients. I learn you must wait 3 months after cataract surgery for the inflammation to resolve before refracting as the prescription maybe incorrect if this is done earlier. For this reason, we give easy readers in the immediate post-op period. Sadly, this may be all the patients get as many are lost to follow up due to their nomadic lifestyles.

I am concerned that all the easy-readers & the sunglasses that are given out are in flimsy plastic sleeves. These are both useless protection in the bush from the lenses scratching & an environmental hazard as the plastic is just dumped on the ground once the patients put them on. I spend a lot of time picking up plastic sleeves from around the camp and disposing of them. Nargis & I hatch a plan for Annah, the late Fortune Emmanuel's Mum, to make some fabric glasses cases on a drawstring that the patients can hang around their neck. She has had sewing classes (sponsored by Fondation Eagle) & she now sews very well now so this should be very easy for her to make the hundreds that we need.

Tuesday, 4th September: Day 4

Samson Lokele, the regional coordinator & I hatch a plan for a small cardiac clinic to be held this time next year as part of the eye mission to Kibbish, which will tie in nicely with the heart clinics in Nairobi, Mombasa and Kilifi. They have a paediatrician & a general physician at the Lodwar Hospital who currently see all their children. Samson has offered to mobilise the heart children (about 20 of them) & bring them to the hospital. We could scan, review & teach the local team how to manage paediatric cardiac patients & those with rheumatic heart disease. I think it would be quite a worthwhile few day's work. I love this "un-silo'd" way of working & the fact that we are not just operating on eyes & teeth & not taking into account the needs of the rest of the community.

We remove the bandages from our blind lady from the manyatta. At first, she is quite subdued as she is getting used to the light & opening her eye for the first time in 24hrs. Gradually she becomes more animated & I see her shaking her head gently from side to side. I ask Alex, our Turkana interpreter & dispensary employee what she is doing. He says that she is referring to my long blonde hair & how she would like to see if move when I dance! I am delighted. She can see that I have long blonde hair! We walk back to the eye camp & she walks for the first time without being led. She then breaks into a run. Stephen captures the whole thing on video. How utterly rewarding. We are all thrilled beyond words.

With her vision restored our grandmother breaks into a run!

The team is methodically working through the patients today. As always, they follow the same routine. The patients have their eyes examined with the pen torch & a brief history is taken. They are then are taken through the eye chart. All aspects of their vision are documented on a small square of paper, which they all keep hold of. This is their version of a medical record. For those who need surgery a small piece of tape is stuck over the eye that requires surgery, with LE (left eye), RE (right eye) or TPR (tarsal plate rotation) written on it, ready to be operated. A bush version of the WHO operative checklist.

My last vision for the day is of all the eye team cheerfully piling into one of the returning 4WD vehicles. There is no mobile phone network here & Kenyans love their mobile phones! They
are going to drive to a small hill about 3km away which if they climb, they can get a has signal. I suspect they will be gone for a while!

Budget & expenditure comparison:

Turkana mission - August 2018

Pre - screening: (Road travel)

9 days (2 days travelling each way, 5 day pre screen)

	BUDGETED COSTS: COST (KSH)	COST (USD)	ACTUAL COSTS: KSH / total USD
Food and accommodation (for trip to Lokichokio & back)	40,000.00	394.80	**11,500**
Allowances (medical team)	81,000.00	799.47	**84,000**
Fuel	60,000.00	592.2	**12,000**
Vehicle hire (includes 1 vehicle from NBO with team & back; additional vehicle for screening & dispensing for 5 days)	189,000.00	1,865.43	
Medicines			**241,000**
		3,651.90	**348,500**
TOTAL:	**370,000.00**	**3,651.90**	**$3,436.91**

Main Mission: (Eyes and Dental)

10 day mission - team flying to Lodwar

	BUDGETED COSTS: COST (KSH)	COST (USD)	ACTUAL COSTS: KSH / total USD
Posters	12,000	118.44	**0**
Medicines/medical consumables (eyes)	450,000	4,441.50	**951,800**
Medicines/medical consumables (dental)	150,000	1,480.50	
Fuel	60,000	592.20	**122,704**
Food for medical team and patients	170,000.00	1,677.90	**182,622**
Allowances (eye team)	280,000	2,763.60	**583,800**
Allowances (drivers, cook, laundry)	55,000	542.85	
Allowances (dental team)	120,000	1184.40	
Security	25,000	246.75	
Laundry (for sterile theatre drapes, etc)	70,000	690.90	**0**
Hire of fully equipped overland truck with tents, mattresses, showers, toilets, theatre tent, chairs, cutlery and cookery	600,000.00	5,922.00	**708,515**
Vehicle hire (2 landcruisers)	270,000	2,664.90	
Fly 540 return flight for 13 people - NBO to Lodwar	223,600	2,206.93	
Water (1250L)	40,000	394.80	**Donated**
Miscellanous (such as camping fees, charcoal)	40,000	394.80	**43,294**
Allowance for paediatric cases to Nairobi and for surgery	50,000	493.50	**None**
			2,592,735
TOTAL	**2,615,600**	**25,815.97**	**$25,569.55**

Post - screening:

	COST (KSH)	COST (USD)	KSH / total USD

9 days (2 days travelling each way, 5 day post screen)	BUDGETED COSTS:		ACTUAL COSTS:
Food and accommodation (for trip to Lokichokio & back)	40,000.00	294.80	**10,000**
Allowances (medical team)	81,000.00	799.47	**84,000**
Fuel	30,000.00	296.10	
Vehicle hire (Only 1 vehicle for trip, incl journey from NBO & back)	121,500.00	1,199.20	**109,840**
			203,840
TOTAL:	**272,500.00**	**2,589.57**	**$2,010**

TOTAL (Pre & post screen, mission)	**3,258,100**	**$32,057.44**	**$31,016.73**

Budget summary:

The table above represents an underspend of $1,040.71.

However, the expenses do not include of those of the flights for MEAK Director Dee Belliere & Trustee Alex Savis to and from the UK or for the internal flights for Dee, Alex and Nargis Kasmani (MEAK eye project manager, based in Kenya to and from Lokichoggio. Nor does this amount include the flights for the filmmaker Stephen Kidd. Thus, there is actually an overspend in the region of $5,503.00.

We are in receipt of over 100 pages of invoices and small receipts for each individual component that makes up the total for each category on the spreadsheet. We would be more than happy to supply these if the board desires.

Trip review & learning points:

Logistically, this was another challenging location to perform a medical mission. The distances for the team to travel were long with poor roads & there were long distances to cover to screen and mobile patients.

Clinically, the mission was successful with rewarding levels of community & county engagement, resulting in good numbers of patients from the very start of the mission. On an additional positive note, we were also able to screen & give eye health advice to many school children, focussing on preventative eye & dental health, which is also very satisfying.

At the end of the mission the MEAK team were invited back next year by the local County, which is extremely encouraging from a medical & a continuity of care point of view. Plans are already underway for a further mission in January 2019 to service this often-neglected area.

Thank you:

MEAK is unable to do this work with support & we give our immense thanks to our eye & dental teams & to our sponsor Fondation Eagle for their generous grant which has made all of this possible.

We would also like to take this opportunity to thank all our collaborators in the field, namely:

- Turkana County Ministry of Health
- Lions Sight First Eye Hospital in Nairobi
- Oropoi Dispensary and staff & the Kaikor Hospital
- The MEAK eye & dental teams who worked extremely hard, as usual
- Nargis Kasmani, who's works tirelessly behind the scenes to make these trips happen.

Fondation Eagle can feel justifiably proud that they have made an immeasurable difference to a lot of people's lives & wellbeing. We look forward to further similar collaborative efforts in the future.