Elective Grant Report

The MAF flight from Tana & our welcoming committee

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I used my medical elective as an opportunity to gain insight into an area of medicine to which I had not been previously exposed, namely practising medicine in an under-resourced context. Now returned home, I reflect on the placement feeling a deep sense of privilege at having had such an elective opportunity at Hopitaly Vaovao Mahafaly (The Good News Hospital) in Mandritsara, learning first-hand what it is like to provide medical care in a sometimes, quite difficult, context. This placement offered everything that I had hoped for in an elective plus a whole lot more!

The adventure began with a 90-minute flight with the Missionary Aviation Fellowship (MAF), from Madagascar's capital Antananarivo (locally known as Tana), to Mandritsara, a town in northern Madagascar with an estimated population of 100,000. The flight saved me the alternative which was a 1000km road-trip in a taxi-brousse, a Mercedes Sprinter van fitted out with 20 seats, which equates to a seating capacity of 30, as I would find out on my return journey. In the wet season this enduro can take anywhere from 26 hours to multiple days due to the variable, and often flooded, road conditions. Weighing up the two, I decided that the plane was the safer bet for a timely arrival. The flight allowed me to see the country from above, which painted a picture of the expanse of this romanticised island and gave me an overview of the untamed terrain that hospital patients, had to venture across to access medical care.

Euan, a medical student from the UK, and I were welcomed at the airstrip by some of the team from Hopitaly Vaovao Mahafaly (HVM) and what appeared to be half of the school children in Mandritsara, for whom the plane's arrival served as lunchtime entertainment. Their friendly welcome boded well for the six-week placement.

HVM was established 25 years ago by Christian missionaries from the UK, with the aim of providing for the medical needs of, and sharing the gospel with the people in northern Madagascar, a population consisting primarily of subsistence rice farmers. What started as a small clinic building right next to the airstrip has over the years changed sites and grown into a 57-bed hospital with two surgical theatres, an ophthalmological theatre and medical, surgical and maternity wards.

The story does not end there as the hospital is still growing, with the foundations for a new operating theatre complex recently being laid, to address the large burden of surgical disease and to provide training opportunities for local Malagasy surgeons. In consultation with the doctors at HVM, it was decided that the $1,500 donation from MIGA would go towards purchasing an anaesthetic suction, which will be used in these theatres.

Over the years many doctors from overseas have served at HVM alongside a team of Malagasy doctors. The current medical team consists of 8 doctors from Madagascar and the UK with expertise in the fields of surgery, paediatrics, ophthalmology and general medicine. Our elective coordinator, Dr Nathan Lawrence, had spent one year working at HVM before returning to the UK to do a tropical medicine diploma and decided at the end of last year to put his physician training in the UK on hold to return to help address the shortage of doctors at HVM.

During my stay I felt very much a part of the team because, as well as interacting with the doctors in the hospital, they regularly invited us over for meals, movie nights or to go running and I would see them at Bible Studies or in town at the markets or at church.

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Getting some suturing practice

The vaccination clinic set-up

Outpatients waiting for their appointments

The typical day, would start at 7:30am with a short Bible talk by one of the hospital staff, followed by a prayer meeting with the doctors. We then parted ways and headed for our respective wards, to outpatients or to theatre. After a generous 2-hour lunch break (Australian doctors – we should consider introducing this) work would resume until 5:30pm, or whenever all the patients had been seen. There was often enough daylight remaining to go and take some photos or to read, before making dinner with the ingredients we had procured at the market.

Elective surgeries were scheduled for Tuesdays and Thursdays, with outpatient consults scheduled for the remaining days. During my placement I came to realise that schedules are an easy thing to disrupt, especially surgical schedules, especially in Madagascar. The inopportune timing of many an emergency surgical presentation meant that outpatient consultations were often postponed by several hours. Those reading must realise that there are no air-conditioned waiting rooms and no comfy seats for the outpatients at HVM. The outpatients and their families would sit on the concrete benches for hours and then, when they finally got to see the doctor, they still mustered up gratitude! I witnessed the patience of Madagascan people in many situations and I think that their Australian counterparts could learn a lot from them.

Owing to the hospital's infrastructure and resources and despite the best efforts of the doctors and nurses, the level of hygiene at HVM would give plenty of Australian nurses a fit. I made a point of keeping track of the different animals I spotted on the wards. The list included chickens, flies, geckos, moths, mozzies, flies, some insect which would have been better suited to a pond, wasps, grasshopper, crickets, spiders and more flies. Even in surgical theatres hygiene was compromised. The notion of a sterile field existed only until the 'fly on the wall' became a 'fly in the wound', necessitating the inclusion of a fly swat on the list of standard operating theatre equipment. Despite the frequent intrusion of winged insects into the surgical 'Holy of Holies' there was a surprisingly low incidence of surgical site infections.

One further difference between the Australian and Madagascan health systems which struck me, was that patients would only be admitted if they had family or friends with them who, owing to the shortage of nurses, would be responsible for tasks like feeding, cleaning and toileting patients, for which nurses would be responsible in Australia. It was tough seeing patients turned away because they did not have family who were able to support them.

HVM has no capacity to store blood for transfusions. Blood products must therefore be sourced from a donor who is onsite, which often results in the blood-thirsty lab technicians combing the hospital grounds, grouping the blood of the patient's family, then moving on to other patients' families, staff members and unsuspecting medical students until a suitable donor is found. I was visiting the hospital's laboratory one fine afternoon when the request went out for a unit of O+ blood. They asked me if I would mind donating, should I be compatible. I thought that it was fascinating to watch my blood being cross-matched and screened for relevant diseases. It turned out that I was a match and that the recipient was to be a 14-year-old girl with severe falciparum malaria, a disease which had almost killed me at six months of age. The experience of giving blood to help this girl who was suffering from a disease which had incapacitated me, was emotive in a way which I cannot articulate.

Given that French is Madagascar's official language, I had come to Madagascar expecting a reasonable level of French proficiency among the Malagasy people. While this was the case in Tana and for the hospital staff, for whom French proficiency was mandated, the situation differed significantly for people in the country who spoke very little French and even less English. Consequently, I could only communicate with the patients through the nurses and doctors, who acted as Malagasy-French interpreters for me. Admitting patients in French was certainly a new and somewhat intimidating experience but it highlighted the importance of communicating effectively.

Australia is a big country and there are some Australians in isolated parts of the country who are right to be frustrated by the distances involved in accessing healthcare, going to work or getting groceries. However, many Australians' complaints about the inconvenience posed by distance are rather petty when one considers the isolation faced by rural Malagasy people, especially in the wet season. I came to realise this when, during my second week in Mandritsara, a cyclone hit the east coast of Madagascar. The topography of the area meant that we were spared the cyclonic winds, but boy did we get the rains. There were no rain gauges (to my knowledge) to quantify the amount of rainfall, however the 5 days of nearly incessant rain caused the river to swell and it almost separated the HVM from the rest of town. The consequences for us at the hospital and close to town were minimal, however, many people from villages were cut off from reaching Mandritsara to sell their goods at the market or to come to hospital.

The flooding frequently experienced in the wet season is part of the reason for the seasonal variation in the number of hospital admissions at HVM. The numbers of admissions tend to swell in the dry season, when people can reach Mandritsara, are not busy farming and have money from selling their crops. However, they decline in the wet season when people cannot access Mandritsara, when they need to sow their crops and are living off the remnants of the income from the last harvest.

The low-pressure system also meant that the MAF plane which had been scheduled to bring some supplies and people was delayed by 5 days and the state of the only 'good' road in and out town deteriorated immensely. The drive to Antananarivo is usually a cheeky 26-hour trip in dry conditions. However, after these rains it turned into a 5-day ordeal, meaning that Mandritsara's supply of essentials including eggs and tomatoes, diesel for the town generator and medications (anaesthetic agents, phenytoin and praziquantel) were in very short supply.

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The operating theatre

The laboratory technicians at work

An encounter which gave me a further insight into the impact of distance and isolation in this part of Madagascar was with a diabetic woman who had travelled for two days on foot and by taxi-brousse to have her 3 monthly diabetic check-up. During the consultation the lady got a prescription for 3 months' worth of insulin because distance prevents her from coming to HVM more frequently. For lack of a fridge this lady would have to store the insulin in a hole in the ground to keep it cool. Fridges are virtually non-existent in rural Madagascar, because electricity is a rare commodity (and due to cost and the inconvenience of trying to lug one home through the jungle). One statistic I read suggested that only 13% of households have electricity, which the doctors at the hospital questioned, saying it was likely an overestimation. In rural areas, some households have a small lead acid battery or a solar panel to power a single naked bulb strung up to the ceiling, or to charge a phone. There's no way to power fridges out in the rural areas, but that is immaterial, because all their food here is either fresh or dried. Even in Mandritsara, which has an electricity grid, electricity is not always reliable enough to support fridges. During the cyclone when diesel was in short supply, they could only afford to run the generators for 6 hours a day, rendering fridges in town, useless!

Due to generally low health literacy in rural Madagascar and the difficulties of travelling in the wet season, diseases which make people decide to come to hospital are generally more serious in nature. By the time that people reach the hospital after days travelling on foot, these patients often exhibit florid clinical manifestations, like massive splenomegaly or drum-taut ascites, which aid in diagnosis, making up for, to a degree, the limited range of laboratory investigations.

While HVM does have X-Ray and Ultrasound machines, these sometimes left the surgeons with a high degree of uncertainty for surgical patients meaning that they needed to do an exploratory laparotomy which would be a simultaneously diagnostic and therapeutic procedure.

Conditions which we commonly saw while I was at HVM included malaria, schistosomiasis, HIV, vesico-vaginal fistulas, meningitis, sickle cell anaemia, malnutrition, pelvic inflammatory disease and ectopic pregnancies. It was intriguing to see and learn first-hand about these conditions, many of which are found far less commonly in Australia.

The elective was also quite hands on. I scrubbed in for the majority of surgeries and improved my suturing skills by closing up after most procedures. On one occasion, the surgeon, anticipating a bloody operation, encouraged me to wear an apron under my surgical gown. In a theatre with no aircon, on a 30-degree day with close to 100% humidity, this additional garment proved to be the straw that broke the camel's back. Throughout the procedure I could feel my pores weeping in protest. By the end of the operation my gloves were full of sweat and my scrubs drenched, a fact that the grinning theatre staff did not fail to point out!

Particularly notable operations that occurred during my time at HVM included the surgery at 2am to relieve the bowel obstruction caused by 98 ascaris worms (which, I will have you know, can grow up to 40cm in length) in a 7-year-old girl. The second case with which I will enthral you occurred later the same day. A man had been stabbed at least 20 times by his wife and had injuries including a traumatic tracheotomy, severed tendons, facial lacerations and splenic capsular tears indicating a splenectomy. It was also at HVM that I performed my first lumbar puncture and got to deliver my first baby.

One of the aspects of this elective which I appreciated most, was that the HVM team encouraged us (Euan and I) to get involved in the local community. We had weekly Malagasy lessons with a language teacher employed by the team. Here we learnt the basics, which equipped us to get ourselves into more difficulties at the market than we could get ourselves out of! Fortunately, Mandritsara sees next to no tourism (there were perhaps 15 Caucasians working in Mandritsara), so the locals haven't developed the tendency of ripping foreigners off. Despite our frequent misunderstanding of the prices, the shopkeepers were very honest, pointing out with a mixture of hand gestures and broken French if we had given them too much money. It was far more interesting to go to the market ourselves than to write a shopping list for someone to pick up supplies for us!

A highlight of the elective was spending several days in rainforest villages with HVM's public health teams to vaccinate infants and to give public health advice. We were ferried to the villages by helicopter where we were fully immersed in local village life. Upon our arrival in the village the first visit we made was to the chieftain, who was preparing cloves for drying, as we arrived. In Malagasy culture, it is customary for a guest to give a 'kabary' which is a short speech to explaining who you are. The host will then respond, providing an opportunity for the host and guest to exchange news. The language barrier prevented me from understanding most of what was said, however, one thing which was translated into French for me was the news that the village had recently been attacked by bandits who stole their vanilla. Vanilla is an extremely valuable crop and is one of the things the people cultivate here alongside rice, coffee, cloves, manioc, corn, bananas and pineapples. Unfortunately, police corruption is rife here, meaning that the police can be paid off to turn a blind eye to such happenings. The same happens when foreign mining and logging companies take an interest in the wealth of resources in the lush mountainous spine running parallel to Madagascar's east coast. This corruption, along with villagers felling swathes of rainforest to make way for arable land, has resulted in much deforestation and is threatening Madagascar's endemic and world-renowned flora and fauna. The problem of brazen banditry, while surprising to me, is unfortunately widespread in Madagascar. Later in my stay in Mandritsara, reports of brigands holding people up on the road to a village we had hoped to visit made us reconsider our plans.

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Rice paddies in Tana

A chance encounter on the way to work

A Black and White Ruffed Lemur at the lemur park

During the day I helped the public health team vaccinate 100 babies whose mothers had brought them from villages up to 10km away. I got to give lots of the injections and I fear that as a result there will be a generation of Malagasy babies who will forever associate a Caucasian face with a painful needle. What shocked me during the vaccination clinic was seeing how young many of these mothers were. It made me appreciate the prevalence of teenage pregnancy and the proportion of the girls here who are therefore unable to pursue secondary education.

The other objective of the community health team was to inspect and encourage the use of latrines in an attempt to disrupt the life cycle of parasites like schistosomiasis, which has such a high burden of disease in this country.

Whilst in the village in the rainforest, someone made the mistake of telling me that we were in crocodile country. This seemingly innocent piece of news emblazoned a trip to the riverbank on my bucket list and meant that someone was made to accompany me in my search for this prehistoric reptile. All three trips to the river yielded no sightings, but were pleasant nonetheless.

Malagasy cuisine revolves around rice and lots of it. While in the village, rice was served three times a day and red beans, chicken or dried river shrimp were added to make things more interesting! If the adage, "You are what you eat", holds true, then you can call me Uncle Toby. I must consist almost entirely of porridge. I had assumed that oats would be easy to come by in Madagascar, however, the Malagasy people's dependence on and love of rice meant that they were not to be found in Mandritsara. Consequently, I had to settle for another breakfast option. What a first world problem! Visiting churches in Mandritsara and in nearby villages was another avenue of community involvement which I greatly enjoyed, especially listening to the Malagasy people singing.

Spending time in rural Madagascar may conjure images of me being in the middle of the nowhere for some of my friends. While it is true that Mandritsara is geographically isolated, the advent of cheap mobile phones and network coverage in many parts of the country means that Mandritsara is very much connected with the rest of the world. I was surprised and somewhat touched when the local Malagasy people asked me with concern whether my family had been affected by the bushfires over the summer and were giving me updates on the infancy of the coronavirus pandemic.

Though my account so far might make it sound like there was no spare time left, I did manage to find some slots of free time. The area around Mandritsara is very picturesque and, being a keen photographer, I would often set out for hikes, camera in hand, to try and capture the landscape's beauty. Additional bonuses of hiking around Mandritsara included having chance encounters with people, finding mangoes on the sides of the road and finding the occasional snake. As the snakes in Madagascar are all non-venomous, you don't have to think twice (or even once) before picking them up!

I had a week in Madagascar on either side of my placement. In the first week I took a taxi-brousse down to Tuléar in the south-west, where I did a SCUBA diving course and then visited Isalo National Park. In the last week of my stay I spent walking around and exploring Tana and visited a park where they look after lemurs confiscated from smugglers, caring for them before repatriating them into the wild. It was certainly encouraging to see some organisations and individuals sharing my passion for environmental conservation.

While there is much more I could add, I hope that this report conveys that this was a very valuable and enjoyable placement. I am very thankful to MIGA, the university and the staff at HVM for their combined contributions which saw this placement come to fruition. My thoughts and prayers are with the people of Mandritsara and the staff at HVM as they are currently preparing for the onslaught of COVID-19 which threatens to be merciless should it gain a foothold in rural Madagascar.