Journal of the British Global and Travel Health Association, vol 26 2016 1-3
doi: http://dx.doi.org/10.21864/jbgtha.2016.09

Volunteering as a doctor in Zambia

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Those lucky enough to visit Zambia will find a country rich in culture and tradition with a vibrant and welcoming people and stunning natural wonders. The population of 15 million is spread out over land roughly 3 times the size of Britain with a GDP of only one hundredth of the UK. It has benefited from an extended period of stable government and natural mineral resources, although it remains heavily indebted.[1]

Health services in Zambia are arranged on three tier level with large general hospitals with a range of tertiary services e.g. ophthalmology/paediatrics in the major towns and cities, smaller district hospitals in and around small towns with a limited range of general medical services, often supplemented with/by mission groups and rural health centres based in villages run by a nurse who will see patients, much like a rural GP, and a team of local community health workers whose role is predominantly giving vaccinations/family planning and child health monitoring.

On Call Africa, the organisation we have been a part of complements this by providing a supplementary service to that from the rural health centres, whereby they will drive out to the most inaccessible villages in each district and provide primary healthcare via mobile clinics to those who would otherwise be unable to see a doctor. In addition, they provide health education in local villages to empower local communities and help prevent disease transmission, and community health worker training with the intention of leaving a sustainable legacy.[2]

A typical day in Zambia

We load up the Landcruiser, water and paperwork on top, food and medicines inside. Six or seven people can be carried with relative ease over almost any terrain, although common sense prevailes at the sight of a 4 feet deep 30 yard wide river. We are accompanied by our local chef, guide and translator rolled into one, who's input is invaluable throughout, not least because the majority of the villages are off the map and the road signs non existant.

The highway, built by the Chinese recently, leads away from town before we turn off onto what could loosely be termed a dirt track. Goats, guinea fowl, remnants of crocodile farms, and hand sewn fields of maize flit in and out of view with another car the exception, and pedestrians the norm, each smiling and greeting happily.

Village amenities depend on location, the closer to the highway the better, the biggest with a bar selling fermented maize and sometimes direct power, all with boreholes and a school. We base ourselves at the rural health centre and speak with the nurse before settling down to a night under the stars in our camping pods. Each morning we rise with the cockerels and travel across to the most difficult to access villages, where On Call Africa is often the only team of doctors to ever have arrived there.

Clinics take place in open walled thatched adobe huts, schools or community centres. Wherever it is people arrive. Some have walked with their children through the night arriving at 3 or 4 am so they are first in the queue, others come through the day after working in the field. Assisted by a team of volunteer community health workers and translators we attempt to see everyone in turn. Complaints are almost non-existent despite many having to wait several hours. The cost of admission is a medical record book, which costs 3 pence, charged to encourage people to bring it back. People are grateful and willing to engage and the days are long but rewarding.

Health issues in Zambia

Malnutrition

Malnutrition is significant health issue in all developing countries and Zambia is no exception. The population where the clinics are based is a collection of farming communities where the crop is almost exclusively maize with pumpkin, beans, mustard leaves and ground nuts in some areas. Goats and chickens are kept in small quantities, one goat is sold for about 150 Kwacha or £8.

The most popular dish is maize flour (N'Shima) with beans. Areas with high maize have long been associated with vitamin deficiencies[3] and these areas are no exception. We frequently see patients with a dry, crocodile skin over sun exposed areas, which is in keeping with early pellagra rash from niacin deficiency.

As mentioned, community health workers will regularly weigh babies and small children to flag up those losing weight. We frequently see children with severe malnutrition due to the ill health of their parents, with recent cases including a parent with

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undiagnosed HIV unable to provide for her child and a mother unable to sufficiently breastfeed her sixth baby due to previous ductal breast infections. By treating the underlying cause of these cases we are able to prevent the cycle of malnutrition.

Infectious Disease
As one would expect, infectious diseases eradicated in developed countries are more prevalent in rural Zambia. Villages with nearby standing water are notorious for their bilharzia problems as a consequence of a lack of proper sanitation. Rheumatic fever was a condition we encountered which was disabling and distressing and the sequelae of which will undoubtedly become more pronounced as life expectancy increases. I recall one girl with swollen knee and elbows almost unable to walk with pain.

Intestinal worms are strongly related to malnutrition and fortunately treating them has become increasingly simple with a single albendazole, though like much of medicine in a resource poor setting it is difficult to know how accurate the diagnosis is and whether benefit is seen in the longer term. Certainly, in our experience patients do improve and treatment of one may often lead to the rest of the family arriving next month for treatment.

Malaria and HIV
Malaria is often the first thing we think of when considering tropical disease and during the wet season it would be expected to occur when the anopheles mosquito numbers multiple exponentially in rural lakes and marshes, however my time there did not coincide with this.

HIV and Malaria are two of the best funded conditions in developing countries and as consequence rapid diagnostic tests are easily available. We encourage voluntary HIV counselling and testing of almost anyone who comes to the clinics as treatment is free, effective and easily supplied by rural health centres. The United Nations quotes Zambia as having an HIV prevalence of 12.5%[5]. Our positive rates are far lower and people attending with new HIV or HIV related issues is relatively uncommon, perhaps due to a rural environment away from main traffic routes so the spread is less frequent.

Condoms are offered to help prevent disease spread and are received gratefully by both men and women. On one occasion some male governmental workers who were visiting villages to register voters helped us pack our van and then one asked us for a few condoms. I passed him a handful from my box and he requested a few more, for his colleagues, in the end the entire box of 100s of condoms was distributed happily among them. On Call Africa is supplied with condoms and contraceptives for the purpose of distribution although it is not directly part of its remit.

Occupationalhealth
Occupational health is not a term used much in conjunction with tropical medicine; however, it is undoubtedly an appropriate reference for several frequent complaints seen in rural Zambia. Obstructive respiratory disease in women exposed to smokey fires has been described previously[4] and is equally prevalent here. All village cooking is done over charcoal fires, some indoors and some outdoors, all by the women and as one would expect large quantities of women complain of symptoms of COPD/asthma with benefit from salbutamol (provided in tablet form as opposed to inhalers due to the cost differential). International efforts to encourage the use of smoke-less stoves have yet to arrive in southern Zambia. As a consequence the only lifestyle advice possible is to encourage cooking in well ventilated areas.

Carrying water and other goods on a woman's head as she walks is an image synonymous with sub-Saharan Africa. While an efficient transport technique, it has inevitable consequences for the back and neck, and likely contributes considerably to the extremely common chronic mechanical back pain we saw in women. Fortunately, it responds well to simple analgesia and lifting advice.

FamilyPlanning
The most sought after intervention from the female population is contraception, This is hugely important in a country with maternal mortality rate of 224 per 100,000[1]. In the villages served if a woman is pregnant they are encouraged to attend their local rural health centre, which may be several days walk away, approximately one week before they are due to give birth where they will stay with a family member or friend while awaiting the birth. Contraception is provided by rural health centres, and funded via central government, it consists of the combined oral contraceptive, Depo injection or condoms.

Access to healthcare
One of the biggest challenges faced in Zambia is transportation. Distant villages can represent a challenge, even with access to a vehicle. For several months of the year villages may be cut off by heavy

rains, trapping those unable to ford the rivers. We arrived at one river shortly after the rains began, only weeks before it was a basin of sand with no water but on return it was a torrent 4 feet deep and 30 yards wide leaving us unable to cross, thus presenting us the interesting conundrum of what supplies do we try and float over. There were no medically trained individuals, not even a community healthcare worker there so we couldn't justify antibiotics or anything potentially harmful if administered incorrectly. We eventually settled on oral rehydration sachets for children with diarrhoea and condoms as all the women would be unable to access contraception during the rainy season.

While our care and hospital treatment is free the cost of transport is not and it is a frequent issue that patients may decline referral on the basis that they are unable to make the journey to hospital. Even if we take them they still must have the means to feed themselves in hospital and return home or risk being stranded.

Conclusions

Much if what is seen here is a direct consequence of poverty and lack of education. Bilharzia would be wiped out by proper sanitation as the cycle of transmission of the schistosome would be broken. Pellagra and malnutrition are sequelae of poverty where people are unable to provide effectively for themselves or unaware of the value of different foods to their diet. Access to healthcare would be improved by better transport links and an ability to pay.

Any health intervention will always have its limitations but it does not make it any the less worthwhile. Improving health with short term interventions will enable people to maximise their mental and physical capabilities and overcome the longer term barriers of economic poverty. We know that prevention of anaemia through de-worming will improve outcomes for school children.[6] Additionally, through its program of community health worker training and school education, communities are supported in developing their own sustainable long term solutions to the issues we see, so rather than replacing an existing healthcare system On Call Africa is actively encouraging and supporting the growth of local teams who are gradually taking on more responsibility.

Personally, on a multitude of levels visiting Zambia was an extremely rewarding experience. Exposure to new and diverse conditions such as vitamin deficiencies, rheumatic fever and bilharzia that one would rarely, if ever see in the UK is invaluable. The privilege of being invited into villages and communities where On Call Africa may be the only foreign group ever to have arrived is immense. It is an experience that any doctor with patience and an open mind could benefit from and one that goes a long way to reminding us how rewarding medicine can really be.

Acknowledgements
On Call Africa Trustees and team members Kirsty, Gavin, Phil, Rory, Martin, Themba and Emma

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