HONORARY LECTURER UNIVERSITY HOSPITAL ZAMBIA AND UNIVERSITY OF ZAMBIA (UNZA) / SENIOR FELLOW ZAMBIAN ANAESTHETIC DEVELOPMENT PROJECT

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I was one of the senior fellows for the Zambian Anaesthetic Development Project from August 2017- February 2018. My role was to provide supervision and educational opportunities in a multitude of environments for the Zambian trainees. The overall goal of the project is to address the shortage of anaesthetic practitioners in this underdeveloped country (only up to 15% of surgeries that should be performed, can be).

ZAMBIA

Zambia is classed as a low/middle income country; data from The World Health Organisaton, 2015, shows that life expectancy is 59 years of age for males and 65 years for females. Infant Mortality Rate is 44.8 per 1000 live births and maternal mortality is quoted to be 224 per 100000[iii]. UNAID's data from 2017 suggests that there is a 12.4% HIV prevalence, with 67% of adults on anti-retroviral drugs (ARDs) and 52% of children on ARDs[iii].

It is a landlocked country, sharing borders with Zimbabwe, Namibia, Botswana, Angola, Democratic Republic of Congo, Malawi, Mozambique and Tanzania. Zambia has wonderful landscape and an abundance of safari experiences throughout the different seasons. I was there for the peak of the dry season and the start of the rainy season, otherwise known as the emerald season. Up to 72 languages are spoken and the country is culturally diverse.

WORKING IN ZAMBIA

My roles and responsibility at the University Teaching Hospital Lusaka included the supervision, teaching and training of the Master of Medicine (MMed) Trainees in Anaesthesia. The project has been ongoing since 2012 and has significantly contributed to improved patient safety and anaesthetic care.

When I commenced, the number of trainees in each year is as follows:
MMed Year 4: 6
MMed Year 3: 1
MMed Year 2: 6
MMed Year 1: 2

During my time in Zambia, there was the beginning in the overhaul of the training system from MMed to a Specialist Training Program (STP). Although this did not affect our trainees directly or immediately, there were a number of questions and concerns raised by current trainees (MMeds). I found that much of my role was to re-direct the concerns of the MMed trainees to the academic lead

and head of department. I provided reassurance and worked as a mentor to aid motivation and continued education.

I had both on site supervision and remote supervision by UK and Canadian anaesthetists. There was also a network of other fellows with whom I could share experiences and take advice from. Despite being a tertiary referral centre, UTH is significantly under-resourced and has a large burden of late presenting pathology. Working under circumstances where there is limited expertise enabled me to develop my problem solving skills, think creatively and enabled me to understand how to develop healthcare systems.

OPERATING THEATRE

I spent much of my time in theatre (3 -4 days clinical) ensuring the MMeds had appropriate supervision and someone to discuss cases with. Many of the trainees are very experienced and required very little supervision per se as they, themselves are more familiar with some of the challenging surroundings. However from an academic and safety point of view, my role was to encourage best practice and discuss different anaesthetic skills, giving VIVA practice and encouraging use of a variety of techniques. I also allowed enabled them complete clinical governance work and projects by giving them time off theatre/service provision by undertaking this work on their behalf where appropriate.

I was involved in obstetrics, gynaecology, orthopaedic, trauma, ENT, paediatrics, maxillo-facial, neuro and cardiac surgeries.

Theatres themselves were variable in terms of equipment. We often reused equipment, the induction drugs were variable- we often did have propofol however we regularly used ketamine and kept patients deep when no muscle relaxant was available. Sevoflurane was rarely available, the main anaesthetic volatile we used was halothane.

ICU
As a senior fellow, my role was to lead ward rounds when consultants were unavailable, I mentored the MMeds, doing bedside teaching with nursing staff and other visiting members of staff.

I attended referrals from the wards with the MMeds and was involved in decision making regarding bed allocation and also encouraged discussion and teaching about end of life care. Some of the junior MMeds also attended ventilation settings workshop I had organised.

Courses
SAFE OBs
I directed the sixth SAFE OBs course held in Lusaka, Zambia. There were 19 participants, 1 nurse practitioner and one physician anaesthetist and the rest

were clinical officers from throughout Zambia. The future of the course has now been handed over to a post-graduation MMed for delivery.

Essential Pain Management (EPM)
2017 was the first time that EPM has been held in Zambia. Myself and a post-graduate MMed were the in-country lead. There were two visiting consultants and one other ZADP fellow as well as another local clinician who facilitated the course at Levy Mwanwasa Hospital, akin to a district general hospital in Lusaka. We ran 2 EPM workshops training a total of 29 participants and we ran an instructor workshop training 13 new instructors.

Recommendations from the course were as follows:
- Formation of a Pain Management Committee to coordinate the following:
- Assessment and action plan to address local barriers
- Clinical audit to assess impact
- Repeat EPM workshops with local instructors

Non-clinical

Fibreoptic
MMeds can be examined on a number of techniques and equipment that is unavailable to them such as fibreoptic skills. The equipment was unavailable for them to use, so I spent some time with senior trainees doing tutorials then giving them the opportunity to attend a respiratory physician's bronchoscopy clinic. This seemed to be well perceived and MMeds felt it helped with their morale and was relevant to their training needs.

Fasting times project
There seemed to be no set practices regarding fasting times on the paediatric surgical wards. I looked at the patients that were anaesthetised on the days I was in theatre over 2 weeks in the paediatric block, 45% of which had been incorrectly fasted, including 2 infants who had been fasted >6 hours. I therefore assisted one of the MMeds on a fasting times project. We developed a pre and post teaching questionnaire as well as posters and educated the nursing staff on the paediatric wards regarding fasting before surgery and correct fasting times. The plan is that the MMed will continue these sessions with the surgical staff as well as theatre staff.

Heavy Bupivacaine Audit
It was noted that the heavy bupivacaine being used for spinals was potentially causing and increased hypotension and often there was inadequate block. I have therefore assisted and supervising two of the MMeds (one year 2 and one year 4) to carry out an audit and potentially collect samples for analysis of this product.

Standard Operating Procedures (SOP)
I produced a SOP booklet to be used in all theatres and recovery areas. During implementation myself and one of the MMeds did some teaching with the nursing and midwifery staff in these areas.

Zambia is a beautiful country with wonderfully friendly people, but the health and social burden is great. Whilst there, we took every opportunity to travel, from the famous Victoria Falls: known as Mosi-Tunya, to the scenic peaceful Kundalila Falls. We visited the Blue Lagoon National Park, and saw the most incredible night sky, we drove to Kasanka National Park to see the world renowned bat migration of course numerous different safaris and picnics, inviting the MMeds where we could to encourage teambuilding. In order to keep costs down we camped a lot!

I was privileged to be able to experience this diverse country. The clinical experience was equally as diverse and challenging. This enabled me to learn a lot on how to provide best possible clinical care, in situations where there are limited resources. This programme is excellent in allowing senior trainees to develop clinical skills as well as leadership, management and teaching skills. It also allows the MMeds to have consistent supervision and training opportunities. This allows them to learn new skills, gives them the time to pursue some of their own clinical interests by adopting a similar training structure as is present in the UK. I highly recommend this post to future UK trainees who would like to enrich their clinical experience.

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[i] World Health Organisation, Global Health Observatory Country Views, http://apps.who.int/gho/data/node.country.country-ZMB

[ii] Zambia in Figures April 2016, https://www.zamstats.gov.zm/phocadownload/Dissemination/Zambia%20in%20Figure%202016.pdf

[iii] AVERT, Global Information and education on HIV and AIDS, https://www.avert.org/professionals/hiv-around-world/sub-saharan-africa/zambia