

Keith Thompson Travel Grant - Report from Zambia

I was very grateful to receive the Keith Thompson Travel Grant which helped facilitate my Out Of Programme Experience on the Zambia Anaesthetic Development Program (ZADP) as a Senior Educational Fellow from Aug 2023 - Jan 2024. This was a fantastic formative experience into global anaesthesia with significant shared learning and I am delighted to share insights into my time there and the work of the ZADP partnership.

Background

ZADP is a partnership between the Global Anaesthesia Development Partnerships (GADP) and the Society of Anaesthetists of Zambia (SAZ), established in 2012. Like many countries in sub-Saharan Africa, Zambia has very few physician anaesthetic providers; 79 for a population of over 16 million¹. This is far below what is needed to support the consistent, safe delivery of surgery and peri-operative care. It is a medical speciality which is still largely in its infancy. Therefore, recruitment and training of local physician anaesthetists are fundamental to increasing and strengthening the workforce.

The partners work hand-in-hand to develop safe anaesthetic and critical care by identifying priority areas that need addressing followed by strategies that aim to make an effective, sustainable impact. One of the main areas of support is delivered by the presence of visiting Clinical Fellows at University Teaching Hospital, Lusaka and Ndola Teaching Hospital to work with local Consultants to develop and deliver the Anaesthesia and Critical Care Training Program.

Role of the In-country fellow

This role in the anaesthesia training program is truly immersive, being embedded within the department of Anaesthesia supporting residents daily. During my time I worked alongside three other visiting fellows, from the UK and Kenya.

Time is mostly spent in the 1655-bedded tertiary referral centre of Zambia (University Teaching Hospital, Lusaka) which housed 6 theatre complexes. Due to the scarcity of consultant anaesthetists, the residents and non-physician anaesthesia providers largely work independently from a very junior level. Therefore, a large component of the in-country fellow is to provide daily clinical and non-clinical support to residents.

The fellow role can be broken down into two main facets; teaching and support that occurs in the clinical environment or in-theatre, and teaching that occurs out of the clinical



University Teaching Hospital, Lusaka

environment, in the classroom.

There are 19 trainee anaesthetists at University Teaching Hospital and a further 4 more at Ndola teaching Hospital 300km north. Support trips to Ndola are also a part of the program, typically travelling up and spending one week in the department.

The focus and achievements of the in-country fellow programme can be further broken down as follows.

Clinical in-theatre teaching

The biggest role has been in theatre teaching and support. Whilst local Consultants are present to support trainees, there are too few of them to supervise all trainees in a way that will also support learning in theatre. In-country fellows provide support to local residents but this is also extended to non-physician Anaesthesia Providers and visiting medical students.

In-theatre support included pre-operative assessment discussion and development of peri-operative anaesthetic plans, developing clinical decision, Intra-operative supervision and clinical teaching. Practical teaching included neuraxial and regional anaesthesia and advanced airway management.

Working in a resource limited area also resulted in bi-directional learning. This was a challenging but very rewarding experience and required me to be adaptive and innovative in order to provide the best possible care and lead by example.

Classroom Training

The in-theatre work ran along-side an organised teaching schedule of classroom-based teaching sessions which ran twice weekly. This is complemented by remote fellows from around the globe that facilitate multiple online weekly teaching sessions to the residents.

As an in-country fellow, I predominantly focused on the delivery of simulation teaching sessions which ran twice a week, one session for the junior trainees and one for the seniors, and subsequently merging these as available to all to increase attendance. Simulation sessions include a work space which has been made to resemble a clinical environment with a patient that is typically a mannikin. This allows us to rehearse critical or rare events in a safe space, and allows trainees to make mistakes but learn from them without harm coming to patients. These simulation sessions were also run at Ndola Teaching Hospital during the visits there. Running them over a period of months allowed us to work with individual trainees who had specific learning needs.



The daily commute to UTH, under the majestic flame trees.

I organised 15 simulation sessions during my time with participation in many more. Content included crisis resource management, anaesthetic emergencies including obstetric, paediatrics and critical care with a focus on human factors. Completion of the AAGBI “Quick Reference Handbook”. Cases were also delivered based on curriculum, trainee feedback, learning from recent events.

I also encouraged ‘train the trainer’ whereby I supported local senior residents to run the SIM - part of developing sustainable longer term development of the local workforce.

Obstetrics was a high risk area and after the national Society of Anaesthetists of Zambia conference focusing on Maternal Peri-operative care I co-devised a joint MDT SIM session with the obstetrics staff and anaesthetic staff.

Exam and training support

A fundamental aim of the ZADP fellows is to ensure that trainees are supported in their exams, given their heavy work schedule and desire to progress in their studies. In the lead up to the July-August exam season we provided trainees with exam practice sessions, 24 practice sessions were held between the four training years of anaesthetists.

I created a weekly final exam club with Mock Written papers distributed to senior residents which I then marked followed by a sit down discussion of the paper and answers as a group. Although residents undergo FRCA-level exams, a lot of the material they learn is not available or routine in their clinical practice. Despite this, I was in awe of their depth of knowledge and clinical

As part of the ZADP supportive and teaching role, fellows completed WorkPlace Based Assessments for Trainees which are an essential component for their ARTP. Reflective practice was encouraged to support learning events.

Leadership mentoring and QI

Supporting leadership, management, and academic activities including quality improvement is another aspect of the teaching role. Alongside another visiting fellow I supervised local residents’ airway QI’s projects. This included the implementation of eFONA ‘tea trolley’ teaching and packs as well as creating the first Difficult Airway Trolley at UTH. This initial trolley was rolled out in the elective theatres with much



Introducing the Difficult Airway Trolley to main elective theatres in UTH. A QIP led by Dr Katongo Mumba, 3rd year resident.

anticipation and support from the wider theatre team. Work is undergoing to roll this out in other theatre blocks, with a priority being obstetric theatres.

Regional Anaesthesia

Following on from achievements in 2022, a focus of ZADPs goals was to further develop a regional anaesthesia service in Zambia. This is particularly important in an area where analgesia is limited. To support this program we delivered daily support for regional blocks in theatre. Trainees would contact us if a patient they were anaesthetising would benefit from a regional block. To complement the in theatre teaching we also put on regional anaesthesia workshops, focusing on the 'RA-UK Plan A' to allow trainees to practice their ultrasound scanning. Of the 22 trainees approximately half are now independent at two of the most important blocks of the lower limb.

Critical Care

Trainees are dual accredited as Anaesthetists and Intensivists upon completion of their training but due to the limited workforce it is often difficult for trainees to get adequate exposure to the ICU environment. ZADP have recognised this as a challenge and have worked in partnership with local faculty to prioritise and optimise critical care teaching.

Teaching sessions included lecture based teaching on critical care topics and SIM based training. Facilitating teaching on practical procedures in ICU such as Lung Ultrasound, basics of Focused ECHO, central and peripheral IV access.

Induction of Novice Trainees

I co-devised the first Novice Course for new residents joining the training program in November 2023. This was an introduction to the basic principles of anaesthesia, integrating elements of the work-place dynamic, career expectations and growth. This was delivered through a mix of didactic sessions and simulation based training in some critical areas over four days. This was set to align with the RCoA Novice Guide for Initial



Novice trainees about to embark on their training after successfully completing the induction to anaesthesia course.

Assessment of Competence including SIM scenarios. This was the first novice induction delivered in UTH with local faculty and ZADP support, and hopefully the first of many more.

Mentoring and Wellbeing Support

A large part of role was to support residents not only clinically but psychologically as well. The anaesthesia training program in Zambia is currently very demanding due to the sheer imbalance between the number of anaesthetists and demand for anaesthesia. To support trainee well-being we have run difficult case debriefs for individual trainees and as groups, and arranged social events to increase team cohesion and allow for time to wind down. Fellows provide a nurturing mentorship role with the trainees and ensure to have regular welfare 'check-ins'

I facilitated a wellbeing session presenting on aspects of workplace wellbeing, burnout and Moral Injury, including resources as provided by AAGBI. This was a space I took great pride in providing, particularly after witnessing first-hand the demanding conditions the residents so tirelessly and resiliently work in daily and their commitment to advancing the speciality.

Collaborations:

There were also opportunities to be involved with collaborations with other visiting teams to Zambia.

This included Orbis flying eye hospital where I was faculty for simulation based training sessions to local staff and also assisted with anaesthesia on the flight hospital stationed at Lusaka Airport.

I presented on 'How to Publish QI' as part of a two day workshop on QI facilitated by The University of Minnesota visiting Surgical team.

I also supported visiting US teams as part of the Global Academic Anaesthesia Consortium (GAAC) - with two week visits

from teams from University of Nebraska and Mayo Clinic. I was also honoured to have the opportunity to present at the annual SAZ conference themed 'Improving Peri-operative Obstetric Care in Zambia'. Here, I presented on the management of the obstetric airway, focusing on local, context-specific practice aligning it with recommendations from the DAS obstetric guidelines and how to promote safety in this high-risk population, where unfortunately maternal mortality related to anaesthesia is still disproportionate.



Local faculty and ZADP members at the SAZ annual scientific meeting, November 2023.

Summary

The ZADP teaching fellowship has so many facets and opportunities to focus on based on your individual interests. It was a privilege to have the opportunity to be so actively involved in promoting safe anaesthesia and critical care not just to residents but all members of the multidisciplinary team. Overall, this was an experience that helped me develop in more ways than I could have ever imagined and one I'm sure will stay with me throughout my career. My only regret was not extending it for a longer time. Zambia is a beautiful country, and a lasting memory is just how friendly and welcoming the local people were. Getting 'down-time' was also a necessity during the busy program and one is truly spoilt with just so much spectacular wildlife and landscapes to explore, including one of the awe-inspiring natural wonders of the world, Victoria Falls.



A quiet moment overlooking the Luangwa river valley in South Luangwa National Park

I would highly recommend this experience to anyone interested in global anaesthesia and education. I can't wait to return someday!

If you would like to find out more about Global Anaesthesia Partnerships please contact:

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1. Workforce Map - WFSA (wfsahq.org)