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supporting anaesthesia in resource-poor settings

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In this issue:

Anaesthesia Courses in Burundi – 'Towards a hub for training and experience sharing'

Overseas Healthcare Leadership Programme

History, Current Situation and Challenges of Anaesthesia in Cambodia

Introducing point-of-care ultrasound training in low-middle income countries

Global Anaesthesia Development Project Day at the Royal College of Anaesthetists

A New Teaching Fellowship in Uganda

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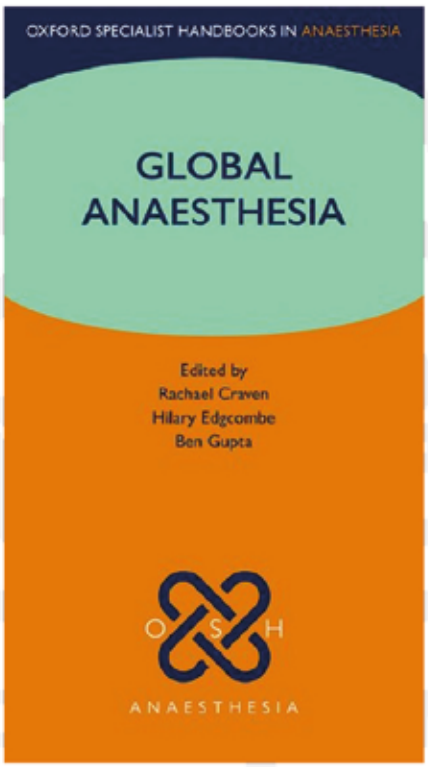
Global Anaesthesia

Edited by **Rachael Craven, Ben Gupta,** and **Hilary Edgcombe**



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Contents

Editorial **4**

The President's View **5**

Anaesthesia Courses **7**
in Burundi – 'Towards a hub for training and experience sharing'

Overseas Healthcare **10**
Leadership Programme

History, Current Situation and **16**
Challenges of Anaesthesia in Cambodia

A New Teaching Fellowship **19**
in Uganda

Introducing point-of-care **23**
ultrasound training in low-middle income countries

Challenges of Working with **26**
a Faith Based Organisation

Global Anaesthesia **29**
Development Project Day at the Royal College of Anaesthetists

Tackling the perceived **32**
negative connotations of trainees working in Global Anaesthesia - Global Anaesthesia, Surgery and Obstetric Collaboration (GASOC)

From the Journals **35**

Useful Information **37**

Welcome to
world anaesthesia news
supporting anaesthesia in resource-poor settings

Welcome to the latest edition of your *World Anaesthesia* Newsletter. We hope you enjoy reading this edition as much as we did compiling it.

It would be remiss not to begin by mentioning the current COVID-19 pandemic. It has touched all of our lives, and as it continues to unfold, we very much hope that you and your loved ones remain as well as can be during this uncertain and difficult time. Whilst our Spring edition of this newsletter was scuppered this year, we hope to bring you a COVID-19 themed edition in Spring 2021, where we will aim to reflect a range of global perspectives of this pandemic. If you or any colleagues would like to contribute, we would as ever love to hear from you.

We have curated this edition away from the evolving pandemic. From Zambia, we learn about a novel Overseas Healthcare Leadership Programme set up between an NHS Trust and colleagues in Zambia. We also learn about the delivery of a pilot point-of-care ultrasound course at University Teaching Hospital, Zambia (UTH). Whilst its use in regional anaesthesia had been established in UTH, they report on the development of ultrasound within critical care and important barriers faced by both trainees and trainers. We also hear from one of our Zambian colleagues reporting from the internationally attended Global Anaesthesia Development Project academic day held at the Royal College of Anaesthetists in October 2019, of which the Zambia Anaesthesia Development Programme forms part of, where he details vibrant discussions including an imperative for local anaesthesia providers to engage in leadership and management roles and on the concept of 'ethical volunteering'

From Uganda, we hear from the first Musana International Anaesthesia Education Fellow working in Mbala in partnership with Busitema University on the Anaesthesia BSc programme.

From Burundi, we hear from the president of the Burundi anaesthesia society, ATSARPS, formed in 2016. We hear that in Burundi, where there are only 5 practicing physician anaesthetists, the bulk of anaesthesia care is delivered by non-physician anaesthetists. Dr Rwibuka details the invaluable role short training courses have played in Burundi in continuing anaesthesia education and maintaining standards of practice.

From Cambodia, we are fortunate to get a long lens view of the development of the anaesthesia workforce culminating with the development of the medical anaesthesia curriculum, and now Masters level anaesthesia accreditation for nurses, at the University of Health Sciences. We get a snapshot of the current challenges facing Cambodian anaesthesia services, including recruitment, equitable distribution of workforce and the perceived limited role of the anaesthetist.

Back in the UK, we also hear from the anaesthetic representative of Global Anaesthesia, Surgery and Obstetric Collaboration (GASOC), discussing the work of GASOC in promoting global north-south partnerships for medical students to established consultants. We also hear from a UK anaesthetist detailing challenges in working in an overseas team, where differences in culture, gender and faith influence team dynamics. And as usual, we have a look back at the journals and discuss a selection of global health articles which we hope will be of interest to you.

This edition is only a small reflection of the breadth of work from the large community working towards improving the access to and provision of safe anaesthesia globally. This is your newsletter – so if you would like to share your work or your perspectives, we would love to hear from you. If you also have any suggestions or comments about the newsletter, then please do get in touch, we really do want to hear from you.

Happy reading!

Victoria Howell and Sonia Abid
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The President's View

October 2020

It's difficult to know how to frame the introduction to this edition of *World Anaesthesia News*. The world has been turned on its head by a global pandemic which has been long predicted and yet, it appears, poorly prepared for. For anaesthetists and intensivists, it has shone a light on our own specialities to an extent rarely seen before, and also resulted in a previously unimaginable clinical workload. Like many of you, I have spent most of 2020 working a full-time intensive care rota to support a hospital which has extended its level 3 bed capacity to several times the normal limit. The pressures on staff have been enormous, not only in terms of patient numbers and acuity, but in ever-changing PPE scenarios, a lack of human contact with patient relatives, and the ongoing uncertainty as to when it will all end.

Tom Bashford

We have also seen the extent to which our speciality is incompletely understood by the political class. I suspect I am not the only anaesthetist who watched dumbstruck the relentless focus on ventilator production, without any apparent insight into the concomitant need for intensive care nurses, physicians, physiotherapists, pharmacists, and microbiologists - not to mention syringe drivers, infusions, monitors, and all of the other paraphernalia that turns a bed with a ventilator next to it into a place where intensive care can be delivered. We have seen UK hospitals running short of piped oxygen, a clear illustration that long-neglected capacity cannot be bought overnight by a cash injection. Frustratingly, this focus on 'stuff' does not just carry negative consequences for those in the UK. Early in the pandemic, WA member Tim Baker and colleagues from around the world wrote to The Lancet outlining the need to focus on essential critical illness provision, rather than being blinded by the need for advanced technology.[1]

To my mind, the pandemic has challenged much of the global anaesthesia work that has been done over the past few years by many of our members. Travel is restricted, and the clinical burden for both high- and low-income clinicians has been immense. This has hamstrung efforts at both humanitarian clinical care delivery as well as development work focussed on support and training.

More philosophically, it has shifted much of the focus away from surgical provision, and more toward intensive and critical care. For some this is an easy transition to make, but for others this might involve a degree of clinical discomfort. Furthermore, those of us from the UK are used to a situation whereby anaesthesia and intensive care medicine are (reasonably) close bedfellows, but this is by no means a universal state of affairs.

However, despite the difficulties affecting us as a global community, I have seen an enormous amount of solidarity amongst not only our own speciality, but across the clinical spectrum. Talking to friends and colleagues across the world, I have been struck by the common challenges we have been facing. The realisation for me has been that in the face of overwhelming clinical need, we all become 'resource-poor' to an extent. The issues of ruthless prioritisation, triage, and making both staff and consumables go that little bit further are not new to anaesthetists around the world, but this may be the first time some of us have had to live that reality. It has provided yet another illustration that global anaesthesia is never about 'them' and 'us' – we are a single global clinical community who can learn from each other, and be better for it.

I have found myself wondering what the global anaesthesia community, and WA specifically, can offer at times like these. Our normal grant-giving through the International Relations Committee of the Association of Anaesthetists has been greatly reduced as people are not seeking to travel, and our normal events at both the Association and the Royal College of Anaesthetists have been suspended due to social distancing restrictions. There is little space to act as a 'Covid-19 information hub' as this role has been admirably filled by others – in fact navigating the sea of different information sources is at times bewildering! In addition our single greatest resource – our membership – has been grinding away in theatres and intensive care units, clad in plastic and trying desperately to just do their day job well. Set against this, we have aimed to consolidate. Our membership model means that funds not spent today remain available tomorrow. Our finances have been overhauled with professional assistance, and are ready to be submitted to the Charity Commission along with our constitution. We are ready to start gearing up to a new normal – look out for a virtual AGM invitation coming soon and the start of virtual seminar days. Perhaps counter-intuitively we have kept this issue of World Anaesthesia News largely free of Covid 19-related articles. This is partly due to pandemic fatigue, but also a desire to wait until some of the dust has settled and we are able to present a view from different settings with the maturity of hindsight – a focus for our Spring edition.

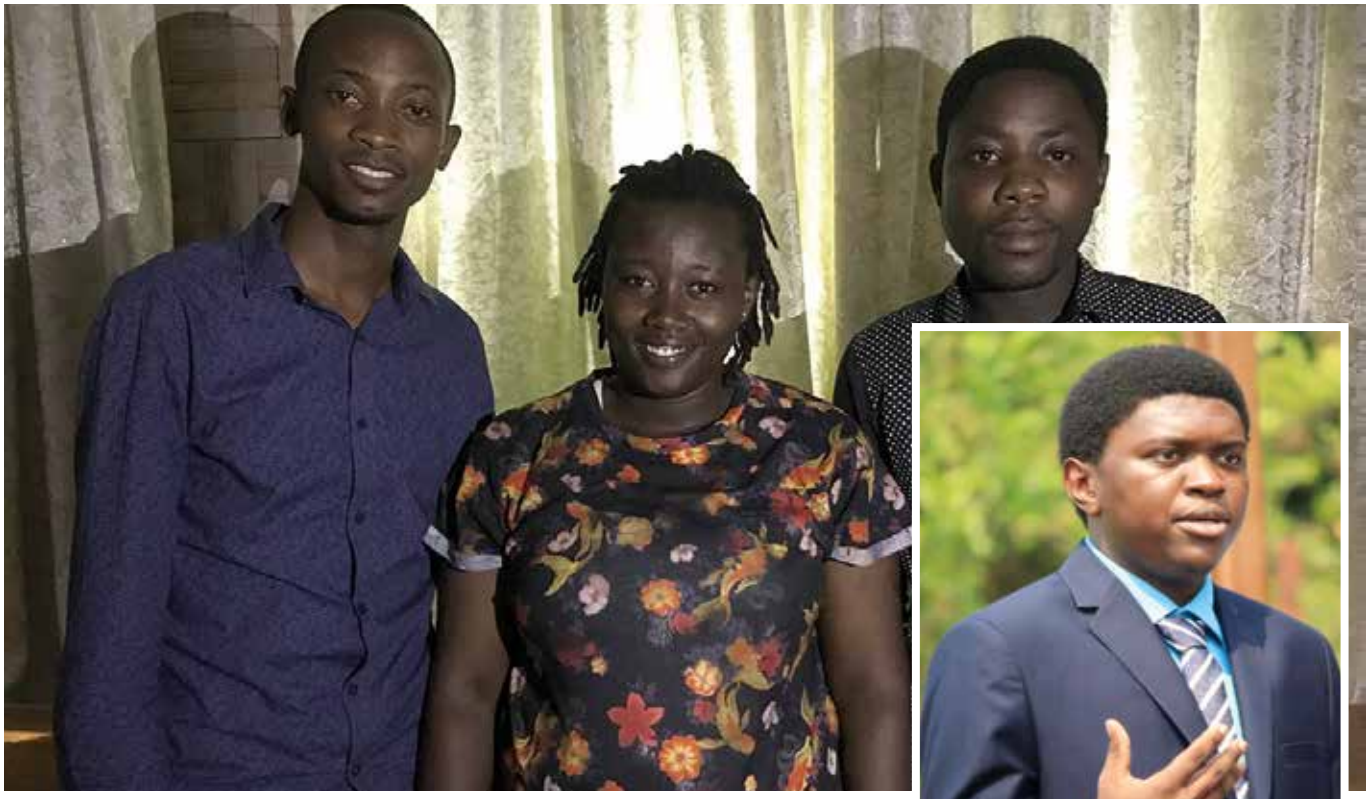
As the first phase of the pandemic plays out, and the despair of a possible second wave looms, I think there's a value in working out how it can act as a catalyst for positive change. We must not lose the innovative approaches to global health work that it has forced upon us, with online training for example now clearly being viable and deliverable. This not only reduces our reliance on unsustainable air travel, but increases the range of people who can become involved. More fundamentally, however, we need to redouble our efforts to make sure that politicians understand the value of anaesthetics and intensive care. Since the Lancet Commission on Global Surgery this has often been framed under the 'global surgery' banner, with us tagging along behind our scalpel-wielding colleagues. While this might be inevitable, what the pandemic has highlighted to me is that we need to be speaking for ourselves. Governments and hospitals need to understand that anaesthesia and intensive care are fundamental to health system resilience, and need to be invested in ahead of time. What I have also belatedly realised is that this message is as important in the UK as it is in the rest of the world.

If there can be a silver lining to a global disaster, perhaps it is that it has never been more apparent that we are genuinely all in this together. Rather than being a cheap political soundbite, this for me prompts a reassertion of the philosophy that I think underpins WA – that we are part of a global community, and stronger together.

All the best, and stay safe.

Tom Bashford
President
World Anaesthesia Society

[1.] Baker T et al. Essential care of critical illness must not be forgotten in the COVID-19 pandemic. *The Lancet*. Vol 395 April 18, 2020. https://doi.org/10.1016/S0140-6736(20)30793-5



L-R: Innocent Mugisha (Médecin Généraliste), Saidate Kifaka, TSAR*;
Samuel Nizigiyimana, TSAR* (*TSAR= Technicien Supérieur en Anesthésie et Réanimation)

Gilles Eloi Rwibuka, MSc,
President ATSARPS

Anaesthesia Courses in Burundi – ‘Towards a hub for training & experience sharing’

Gilles Eloi Rwibuka, President ATSARPS

Background

Burundi is a landlocked country in East Africa bordered by Rwanda, Tanzania and the Democratic Republic of Congo (DRC), recently reported as having the third lowest gross domestic product (GDP) in the world. Burundi has a population of approximately 11 million, the second-highest population density in sub-Saharan Africa, with most (87%) living outside urban centers. Life expectancy is 58 years for men and 62 for women. Kirundi is the national language with French also being widely-spoken and English and Swahili taught for a few years in primary school.

There are currently 5 physician anaesthetists in Burundi, all working in Bujumbura. There are approximatively 400 Burundian senior non-physician Bachelor degree level anaesthetists, approximately 50% of these are working in the public sector, approximatively 300 - 400 anaesthesia providers with informal education, although a number of those are thought to have retired.

Short training courses in Burundi

With the creation of the Burundi anaesthesia society, ATSARPS *(Agora des Techniciens Supérieurs Anesthésistes Réanimateur pour la Promotion de la Santé)* in 2016, several initiatives began. A Lifebox pulse oximetry needs assessment for all Burundi public hospitals was conducted in the beginning of 2017 and this led to a cascade of short training courses beginning the same year. Inaugural 3 day SAFE Obstetric Anaesthesia (SAFE-OB), 1 day SAFE training of trainers (TOT) and 1day Lifebox courses

took place. Feedback from participants was good and improvement was seen from pre and post course knowledge and skills tests.

2018 was marked by further courses as well as new courses and opportunities; key local faculty from the first SAFE-OB course attended a SAFE Paediatric Anaesthesia course in Rwanda. Then the second SAFE-OB course was held, and run by those previously trained in 2017. Following this another local delegate attended a Vital Anaesthesia Simulation Training (VAST) course in Rwanda. At the end of 2018, the first one day Essential Pain Management (EPM) course was held in Burundi followed by a one day TOT, and a further EPM course held by these new trainers the following day. Beside the courses held, ATSARPS was able to partner with the Primary Trauma Care (PTC) Foundation.

In early 2019, Burundi had another EPM course led by local trainers, and the second Lifebox course which anaesthetists from public hospitals attended and pulse oximeters were donated to each public hospital. The third Lifebox course was then held, where again anaesthetists from all public hospitals attended and each public hospital received a pulse oximeter. The Lifebox course was followed by the inaugural SAFE Paediatric Anaesthesia course taught by a mixture of local, regional and international trainers.

ATSARPS have interest in running other kinds of short courses modules such as the MEPA Course, VAST Course, INSPIRE Course, SAFE Operating Room (SAFE-OR), and others. Our biggest challenge is obtaining funding to implement the courses, as is the case for the PTC course we hope to run which has been pending since our partnership with the Primary Trauma Care (PTC) Foundation began. Our goal is to make Burundi a hub of short course training and to share the experience with the local health care providers, but also our colleagues in neighboring countries.

Here's what some of those who've participated in these courses had to say:

Saidate: *"These kinds of short courses allow practice of running scenarios on the manikins before touching the patients which will make it easier for us to anticipate the same actions in real time. Anesthesia in Burundi is based on the same scientific facts and practices as elsewhere, therefore even courses developed in very different settings are of relevance and having international and local faculty are appropriate as the scientific basis of anesthesia is the same - the combination of the two is ideal when possible. Given the learned techniques, these types of short training can help to improve and to change the practice of anesthesia, making it more safe through the contribution of practices that were not routine but are acquired with these short courses. Personally, my colleagues encourage me to share with them my experiences of what I learned in the course modules, and spread the learning. However, sometimes obstacles to the implementation of what is learned include lack of materials, and resistance to change, especially by those who did not participate in the training. Also, the time is limited, and it would be beneficial to extend the time of the training and also offer student internships".*

Samuel: *"I have already received all the different training modules offered locally by ATSARPS. Short courses have a real impact from the practical point of view in relation to the academic training received so far, and they also update us. This is an opportunity to re-learn the correct approach while avoiding the automatism of routine. The universalisation of the practice of anesthesia via these modules is a positive aspect, as is learning by scenarios or simulation on manikins. Short courses enable the upgrading of theories and practices which may be already known, but in an effective, safe and universal way. This directly acts in favor of patients, but also for the anaesthetists who will work knowing that they are practicing within the safety standards and consequently are much more confident in their daily practices.*

Courses which have been developed so that they are universal, for developed and also developing countries, are beneficial for everyone without distinction. I don't see any problem that these courses were developed by people working in developed countries in relation to Burundi. For the inaugural course, the international faculty is necessary to ensure the proper transmission of the module to the local faculty, which will then spread the course locally. Local faculty involvement is important because then it is very easy to assimilate the material between the teacher and the trainee when communicating in local languages for explanation.

But there can be barriers to implementation of the knowledge acquired during these trainings by the lack of adequate materials in our workplaces. I have been able to put into practice what I drew from these courses, because I have all the necessary equipment to do it where I work, among other things. This is not the case for many of my colleagues working elsewhere. Each time when I come from a training course, my colleagues let me present on new information and we discuss how to integrate these in the practice of the team".

Innocent: *"I have attended several of these short courses, and also some locally run workshops focused on management of medical conditions. Short courses give opportunities to improve the knowledge and practice of anaesthetists here in Burundi, most of who do not gain enough practical skills experience while doing their studies, and the courses give them the opportunity to practice more. We can see that by the end of the courses the knowledge and skills improve. The practical nature of training differs from the theoretical type of training that we get at school. This leads to improvements in practices by showing anaesthetists how to do simple things in the correct way.*

It also means they learn on an international level, how to practice anaesthesia to the same level as a person in another country, and how to practice safely and at a higher level. The courses I have seen are usually designed in such a way that the content is appropriate for even low income countries like Burundi; The courses don't teach high tech things, they teach how to do the standard things well.

Sometimes if you bring new information as a local person, there is a tendency for it to not be taken seriously, but if the information comes as an internationally recognised course, or with international faculty involved, it is often viewed differently and taken more seriously. By combining international and local faculty the information is seen as accurate, and the local faculty can help to translate or explain in the local language. Sometimes there are words that don't directly translate so we can explain them better. It also empowers the local faculty and demonstrates that even local anaesthetists can help to change things. Training given by Burundians for Burundians gives a positive message that the locals can provide accurate information.

Implementing change is not easy, there are people who may be obstacles because they have been practicing one way for a very long time. Many anaesthetists think that safe anaesthesia means having expensive equipment, we think the knowledge we have is insufficient, our equipment is lacking, and that such changes can't be done. But it just about using what we have the right way. Instead of thinking of buying expensive things, it's better to know the value of simple things like an ambu-bag, and what we can do with it".

Multidisciplinary simulation training event learning about leadership in clinical settings, Western Sussex NHS Foundation Trust, October 2019

Overseas Healthcare Leadership Programme

Sonia Akrimi*, Richard Venn**, Suzie Venn†, Anne Joint§ and Charles Mabedi¥

***Specialist Registrar in Anaesthesia and Director of Zambia Anaesthesia Development Program** (ZADP)

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¥**Consultant Urologist** (Malawi) and **Leadership Programme Graduate**

A lack of formal leadership training for health workers is a key issue in the development of healthcare in low and middle-income countries (LMIC). Newly-qualified consultants, for example specialist anaesthetists and surgeons, are frequently required to lead entire departments, hospitals, and training programmes, advocate at national level for their specialty including access to funding, drugs and equipment, and to teach large numbers of healthcare staff with little or no formal leadership training. Through our partnership work, the Zambia Anaesthesia Development Program, this has become an expanding need as the local anaesthesia training programme has now graduated a number of physician anaesthetists who have taken on significant roles nationally including first subspecialty leads, department heads and hospital administrative leads, training programme directors, and committee posts in national associations.

Ensuring that trainees and qualified specialists have access to structured leadership training opportunities supports them with the skills needed to lead their specialty and hospitals for health system development, and empowers them to share these skills in a sustainable way working towards safe and equitable healthcare provision for people living across these partner countries.

Overseas Healthcare Leadership Programme (OHLP)

In partnership, the Zambia Anaesthesia Development Program and Western Sussex NHS Foundation Trust (WSHFT) developed a four-week programme of focused leadership training in the NHS for newly-qualified anaesthetic and surgical consultants from LMIC. The course is entirely volunteer-led by a group with expertise in leadership, project management and overseas partnerships for healthcare development. Training is provided by multiple specialists within the NHS and leading UK organisations including the World Federation of Societies of Anaesthesiologists, the British Association of Urological Surgeons, Urolink- an organisation that promotes urological care and education worldwide, Chichester University, and Brighton and Sussex Medical School. WSHFT has donated training rooms and staff time to enable this fellowship to run.

This pioneering UK-led training programme aims to address the lack of structured leadership training opportunities for these doctors, supporting them in leading their specialty and hospitals, as well as strengthening local health care systems, directly benefitting patients in their home countries. The programme also aims to support the consultant surgeons and anaesthetists who receive the training to pass on their acquired skills to other LMIC colleagues in their home institutions. Beyond this, patients requiring surgery in the LMIC institutions in which the participants work, benefit from the improved systems of care and governance, and in the longer term the local health economy benefits from this training through widespread increased systems of care and leadership capacity.

By providing such a training programme in the NHS, UK healthcare professionals have the opportunity to work alongside and learn from hospital consultants from LMIC, gaining knowledge and skills from global health partnerships which can be used to strengthen the UK healthcare system.

Structure of the programme

This four-week programme has been run twice to date (2018 and 2019) and is planned to continue annually, increasing the reach of this training. Participants are provided with access to a wide range of leadership and management coaching and guidance through training in the clinical environment, lectures, interactive workshops, seminars and simulation. At the end of the programme participants continue to receive distance mentoring from the OHLP steering group in their development and project management

work. The course covers the following:

- An overview of the NHS
- Clinical leadership training including systems of leadership, systems of change, education tools including simulation and debriefing
- Operational leadership training including systems of patient safety, root cause analysis, problem solving, finance, coding, procurement and clinical director roles
- Project management skills
- Advocacy and influencing policy-makers

Trainees undertake clinical observerships in their speciality, learning about leadership in clinical settings. They also attend mortality reviews observing how the NHS uses open discussions to learn very practical steps that can be taken to reduce genuinely avoidable deaths in hospitals, and how this can be role-modelled to other countries showing how a team-based reflective approach to discussing these cases, can benefit patient care.

As part of the application process, each trainee must identify a quality improvement project that they wish to develop within their institution. The project is worked up over several workshops and at the end of the four weeks, the trainees present their projects to an invited audience. Once they are back in their own country, they receive ongoing mentorship from a project manager, and the steering group follow up with them on progress and provide additional support where necessary.

Outcomes

This project has trained ten consultants (six anaesthesia, four surgery) from Zambia, Malawi, Rwanda and Ethiopia to date. Across these two years, 77 UK professionals from the NHS and other institutions volunteered training time; volunteers included Chief Executives and senior board members, NHS Consultants, senior nurses and other professionals with experience in leadership or global development.

Participants' experiences are evaluated with a focus-group workshop at the end of the programme where they are asked to design the programme for the participants for the following year, enabling organisers to gain insight into what they enjoyed, what was learnt and how the programme can be further developed to meet their training needs. Most common learning themes identified by participants were exposure to multidisciplinary learning, outcomes associated with quality improvement training (including skills in project management and learning about partnerships) and working with colleagues (leading teams and conflict management).

Participants are followed up at three months and have reported that they enjoyed the experience and felt they were using the learning and skills they had gained in their current healthcare role, and that their quality improvement project remained active. In addition, two participants have reported they have jointly run a leadership training day twice at their institution, and two further were awarded a research grant in partnership with ZADP in support of their quality improvement work.

One participant commented,

"I have noticed that I manage my team differently following this training and this seems to be working better. I'm also much more aware of ways that we can use training and governance to improve patient care but making sure that these strategies are careful not to blame staff or detract from the importance of learning. I still find it difficult to talk to senior hospital administrative staff about our needs as many factors can make having these conversations difficult, but I am working to find ways to advocate for what my department needs."

Dr. Amon Ngongola, Consultant Paediatric Surgeon, Zambia

OHLP participant 2019

We have also found that this training course has empowered participants to talk to colleagues about setting up local training programmes to address the shortfall in leadership training they receive as part of their medical training, furthering the reach of this work.

Benefits for the NHS

Developing a programme in the UK has been an efficient way to utilise the diverse skills and experiences available in the NHS. It has provided an environment for co-development as many NHS clinical and non-clinical staff learnt from their experiences working with LMIC consultants without the need to travel abroad, which often limits the capacity for the NHS to benefit from international volunteering.

Most common themes concerning learning reported by UK trainers were resource management, adaptability and innovation, developing personal leadership and teaching skills, and learning about overseas healthcare systems and global health.

Case Study 1: Dr Victor Mapulanga, Consultant Urologist, Zambia

Improving the Quality of Urology Training in Zambia

The Zambian government is looking to increase the number of urologists from 9 to 100 by 2021 and also to guarantee the quality of the urologists practicing in the country.

During the OHLP in 2018 Victor, one of the participants, observed an induction skills workshop (known locally as 'boot camp') for new UK Urology trainees. Upon his return to Zambia, he led a team of other five urology consultants to deliver a one-day boot camp for 12 Urology trainees. The workshop focused on common urology conditions that the new trainees will be expected to manage. This prepares them well for the challenge ahead, hence improving the quality of Urology training in Zambia. The boot camp was a great success and there is a plan to run it annually.

Case Study 2: Dr. Naomi Shamambo, Consultant Anaesthetist, Zambia

Developing Leadership Training for healthcare providers at University Teaching Hospital, Zambia

Due to the lack of leadership training available for healthcare providers in Zambia, Naomi and another colleague, Christine Msadabwe who also completed the OHLP in 2018, developed their own one-day training course for healthcare providers in their institution using some of the learning they gained on this programme as the basis for their sessions. They also ran this training course in 2019, and now they themselves have provided formal leadership training to 54 healthcare providers including doctors, nurses, midwives, pharmacists and radiographers.

"Knowing that not many people have the chance to do a leadership programme yet are thrown into leadership roles in one form or the other, as a team we embarked on holding leadership courses which we have since run for 2 consecutive years. This course has also received very good feedback with invitations from different departments to hold trainings for their colleagues! Leadership determines the course of any nation and thus good leadership can impact on healthcare and healthcare systems, thus the need for us to begin to tackle the issues of leadership personally, within departments and indeed institutions as well. We have testimonies of those who attended of how the leadership course helped them work better with their colleagues and supervisors as well as overcome conflict in the workplace."

Potentially most interesting from this feedback was the association with resource management and innovation, where NHS staff reported learning new methods of creativity in overcoming institutional challenges, increased problem-solving, and learning ways LMIC partners manage resource constraints. In an increasingly constrained NHS, such skills are likely to strengthen the UK health system.

Funding

The OHLP has been supported by grants from the Tropical Health Education Trust, British Medical Association, British Association of Urological Surgeons and the Canadian Anaesthesiologists' Society International Education Fund.

It costs £2,200 per participant and this covers return economy flights, UK visa applications, accommodation (we use hospital accommodation), airport transfers within the UK, living expenses and local travel.

Future directions

Using feedback from participants and trainers, we have developed the OHLP over the last two years to include a participant manual, more involvement of trainers in the first day of the programme using webinars and videoconferencing, and more developed methods of monitoring and evaluation. We have developed links between the participants and Medical Training Initiative (MTI) doctors within the trust, and MTI doctors have attended some events in the OHLP as a one-day course. We now also have past participants from the OHLP in the steering group helping to drive development of this training programme. We have secured funding for six participants to attend the next OHLP.

Over coming years, we intend to develop this into a model that other NHS trusts and their staff with an interest in global heath development can use to partner and so expand the reach of this work. It will provide their own staff with the learning opportunities that come from such an intervention.

Participants and the Overseas Healthcare Leadership Fellowship steering committee, October 2019

Conclusion

This course provides LMIC doctors with new experiences of multidisciplinary learning, the skills required for leading teams and helps to strengthen their local healthcare system. Leadership training provided in a high-income country can address a significant gap in the training of healthcare providers in LMIC, equipping them with the skills needed for leadership and health system strengthening. Developing a programme in the UK is an efficient way to utilise the diverse skills and experiences available in the NHS. We have found that both UK and LMIC staff gain knowledge and skills from working with each other through this programme, demonstrating co-development.

For further information about the OHLP, contact Dr. Sonia Akrimi (sakrimi@doctors.org.uk).

University of Oxford, Nuffield Division of Anaesthetics

Anaesthesia in Developing Countries Course

Equipping anaesthetists for work in low-income settings

Held in Uganda

Sadly, we will not run the ADC course in 2020 due to the constraints of the pandemic.

If you'd like to keep up with news and developments in the meantime, please sign up to our monthly update email at:

https://global-anaesthesia-updates.mailchimpsites.com/

To be added to the mailing list for early notice of course dates in 2021 please email events@ndcn.ox.ac.uk

Sophallyda Krouch at work at Sonja Kill Memorial Hospital, Cambodia

History, Current Situation and Challenges of Anesthesia in Cambodia

Sophallyda Krouch[1] and Meng Chhuoy[2]

[1]**MD, Former WFSA fellow, Anesthesiologist** at Sonja Kill Memorial Hospital, Cambodia

[2]**MD, Advisor of Cambodian Ministry of Health, Consultant Head of ICU** in Calmette Hospital, chairman of post-graduated anesthesia training at University of Health Sciences, Cambodia

Introduction

Located in Southeast Asia, bordered by Thailand to the northwest, Laos to the north, Vietnam to the east and the Gulf of Thailand to the southwest, Cambodia has a population of 16.1 million (2017).[1] Over the past 20 years, Cambodia has progressed to become a lower-middle-income country in 2015. The government aspires to achieve upper-middle-income status by 2030. Health remains a significant challenge and development priority.[2]

In Cambodia, the system of public health has three levels, including central (national), provincial, and operational district.[3] The central level has the Ministry of Health (MoH), national hospitals, national centers, and public medical university. Provincial-level refers to provincial health departments, provincial referral hospitals, and regional training centers. The operational district level has operational district offices, referral district hospitals, and community health centers. Only national and provincial hospitals have surgical and anesthetic departments.

History, Education & Human Resources

In Cambodia before 1970, anesthesia was provided by nurses or catholic nuns. Professor Vou Kimpor, former rector of the University of Health Sciences, described an event in the 1960s;

At that time, a commune chief from Kampong Thom Province had a large abscess on his thigh requiring incision and drainage. He requested his friend, a surgeon named Professor Leng Pav, and Mr. Huot, a nurse practicing anesthesia, to perform the procedure without pain. Unfortunately, a fatal accident occurred and the patient died on the operating table after anesthesia, and prior to incision. The patient's family filed to the MoH and as a consequence the MoH raised four nurses to study anesthesia in France (Mr. Veth Y, Mr. Uk, Mr. Song, and Mr. Seng). Besides the four anesthesia nurses, in 1970-1972, Dr Kal Ming graduated as a physician anesthetist from France, and came to work in the Khmer-Soviet Friendship Hospital.

In the Philippines, during the Asian Congress of Anesthesia 2001, senior Philippine anesthetists enquired about two Cambodian physician anaesthetists, Dr. Seng Hour, and Dr. Tan Masan who studied anesthesiology in the Philippines from 1974 to 1975. From this, we know that there were another two physician anesthetists before the Khmer Rouge Regime. After the Khmer Rouge Regime, there were no surviving physician or nurse anesthetists. Nurses or nursing assistants began to work in the OR as anesthesia practitioners. In the 1980s, a small number of doctors went abroad for internships (Prof. Norng Kimny - Germany, Prof. Dork Chanly - Russia, Prof. Sun Sira – Germany, Prof. Chey Vithia & Prof. You Sophat - intensive care in Vietnam). At that time, many anesthetists and nurses specialized in anesthesia came from Europe to mentor and work with Cambodian anesthesia practitioners for short periods. After 1985, Cambodian general doctors and health officials (in French, OS: Officier de Santé) graduated from the only public medical school were assigned to work in the department of anesthesia and intensive care.

In 1990, a survey performed by Médecins Sans Frontières/ Doctors Without Borders (MSF) showed high surgical-related and anesthesia-related mortality rate in many hospitals in Cambodia; Meanwhile, the anesthesia setting was limited. As a consequence, in 1990, the Ministry of Health, MSF, University Paris XIII, and University Bordeaux II had an agreement to create a 2-year training course for the degree of Specialized Nurse in Anesthesia, lectured and tutored by French anesthetists or anesthesia nurses. The curriculum was elaborated by pedagogy department of Paris-Nord University Hospital, France. Until 1997, 42 nurses specialized in anesthesia graduated and returned to work.

In 1992, the International Institute for Anesthesia Critical Care and Emergency Medicine (IIFARMU) was established to train medical doctors who were already working in these departments. The institute was created by University Paris XIII, University Bordeaux, and MSF. A 3-year program was formed by professors from French universities (Prof. Cupa, Prof. Dabadie, Prof. P. Erny, Prof. Pourriat). The first Cambodian generation, from 1993 to 1996, were Dr. Chhuoy Meng, Dr. Sam Sopha, Dr. Iv Narin, Dr. Chou Rady, Dr. Tan Sokhak, Dr. In Tityaraksmey, Dr. Sok Run, Dr. Leng Tchengleang, and Dr. So Saphy. For Anesthetist training, French doctors led only the first two generations (till 1997).

From 1997 both anesthesia nurses and anesthetists training were run by Cambodian doctors under supervision and financing from MoH (for nurses). Specialist doctor training came into the

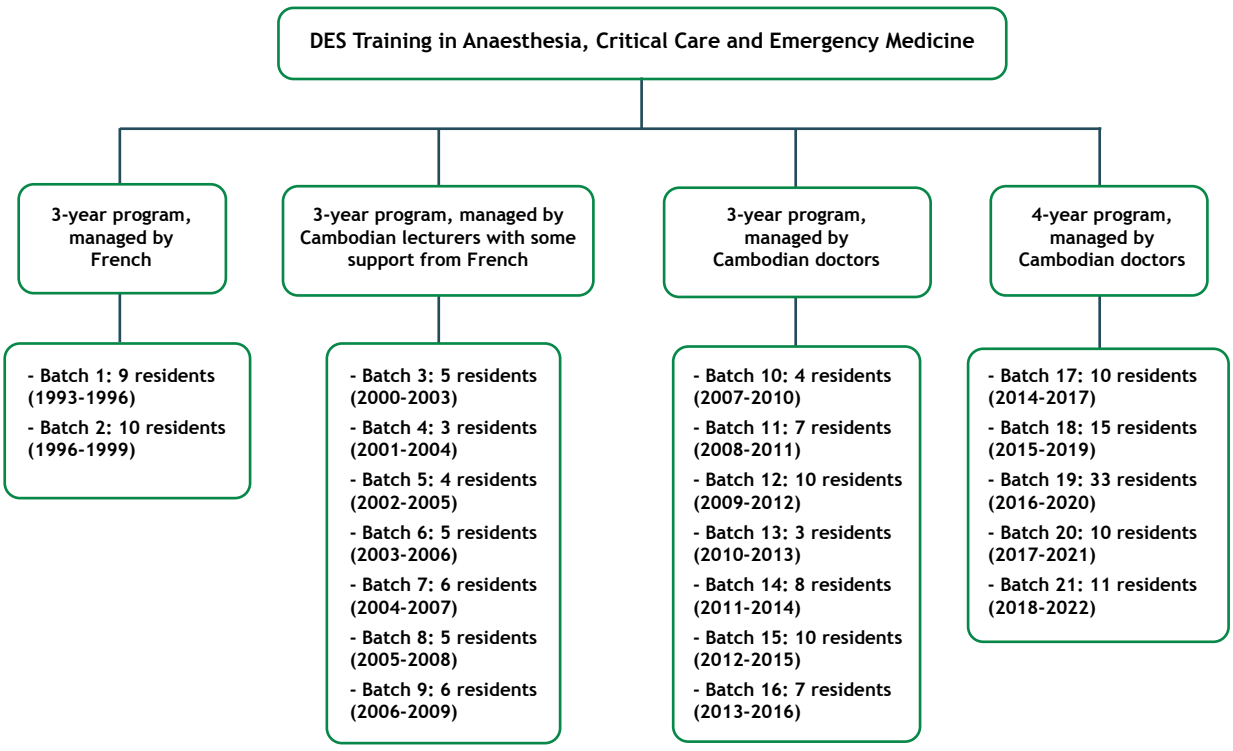

Figure 1: *Summary of numbers of anesthesia residents from 1993 to 2018*

regular academic training program in UHS. In total, until 2008, 118 nurse anesthetists were produced through the training program of MoH. After 2008, the nurse training ceased.

In Cambodia, University of Health Sciences (UHS) is the only university which has a curriculum for training specialized doctors in anesthesia, critical care, and emergency medicine - DESARMU training (Diplôme d'Etude Spécialisé en Anesthésie-Réanimation et Médecine d'Urgence). Medical students who complete a bachelor of medical science or graduate as medical doctor who want to continue anesthesia residency need to take a competitive exam. For each generation, numbers of selected candidates are determined by the MoH and UHS. Figure 1 shows the summary of numbers of anesthesia residents from 1993 to 2018.

Some Cambodian anesthetists complete training through internships in France for one year or more and teach at university level or became mentors at their hospital when they return. These physicians encounter problems related to differences in working settings in a developing versus developed country. There are also anesthesia practitioners who mostly work in provincial hospitals who were trained through short courses or onsite visiting anesthetists.

In 2018, MoH and UHS began developing a curriculum of anesthesia nurse training as a master degree in which trainees are required to take a competitive exam and to pay fees. Simulation-based training is gaining popularity recently. In Cambodia, UHS has implemented this program since 2014 for both undergraduates and postgraduates. In the beginning, experienced foreign tutors from the United States, France, Australia, and other western countries helped in running the courses with local tutors.

Technical Resources

Well-trained staff do not guarantee safe anesthesia; medications and equipment are also crucial. Anesthetic settings in national and provincial hospitals vary. National hospitals have sufficient necessary equipment and essential drugs but most of the rural hospitals have limited resources. The essential intraoperative equipment highly-recommended by the World Health Organization-the World Federation of Societies of Anesthetists (WHO-WFSA)[4] are not always available in provincial hospitals.

Challenges and Discussion

Anesthesia in Cambodia is still challenging due to shortages of human, technical, and education resources. There are only 150 well-trained anesthetists for 16.1 million people, most of these working in the cities rather than in far provinces. In some regions, there is no anesthetist and registered nurses or nurses specialized in anesthesia are required to work as independent anesthesia providers. Newly-graduated anesthesia residents tend to live and work in the city because of better income, and proper facilities compared to the provinces. The number of well-trained anesthesia nurses is also insufficient. The university plans to run a program of anesthesia nurse training in the future. As numbers of qualified staff increase there should be focus to increase the distribution of anesthetists to the provinces.

Education takes time. The university has been advancing the curriculum for training, creating simulation-based courses, having clear internship schedules, and a competitive selection exam; All these things are establishing competent future anesthetists.

The technical resources for the field of anesthesia in Cambodia remain challenging as in other developing countries. The government or the MoH is striving in making it better and anesthesia care is improving. Foreign non-profit organizations like WFSA and the French government also help to develop the field.

The perception of most of the patients or even some of the other physicians is often that the only role of anesthetists is to put a patient into sleep. They do not know what anesthetist's roles involve. Because of such perception, the job value of the field is not good, another factor in weakening this field. Besides putting a patient into sleep, we keep patients safe, comfortable, and mitigate the perioperative risks. Any strategies to clear this incorrect concept would help to develop anesthesia.

To unite anesthetists all over the country, we have a society, Cambodian Society of Anesthesia, Critical Care, and Emergency Medicine. Activities of the society are still limited, but we try to provide continuing medical education and research for members.

Conclusion

To respond to the magnitude of issues in anesthesia, a lot of effort have been put into improving the safety of anesthesia in Cambodia. Education should be the priority to enable this field to develop. To accomplish this requires participation from the MoH, the university, hospitals, colleagues, seniors and foreign institutions or organizations.

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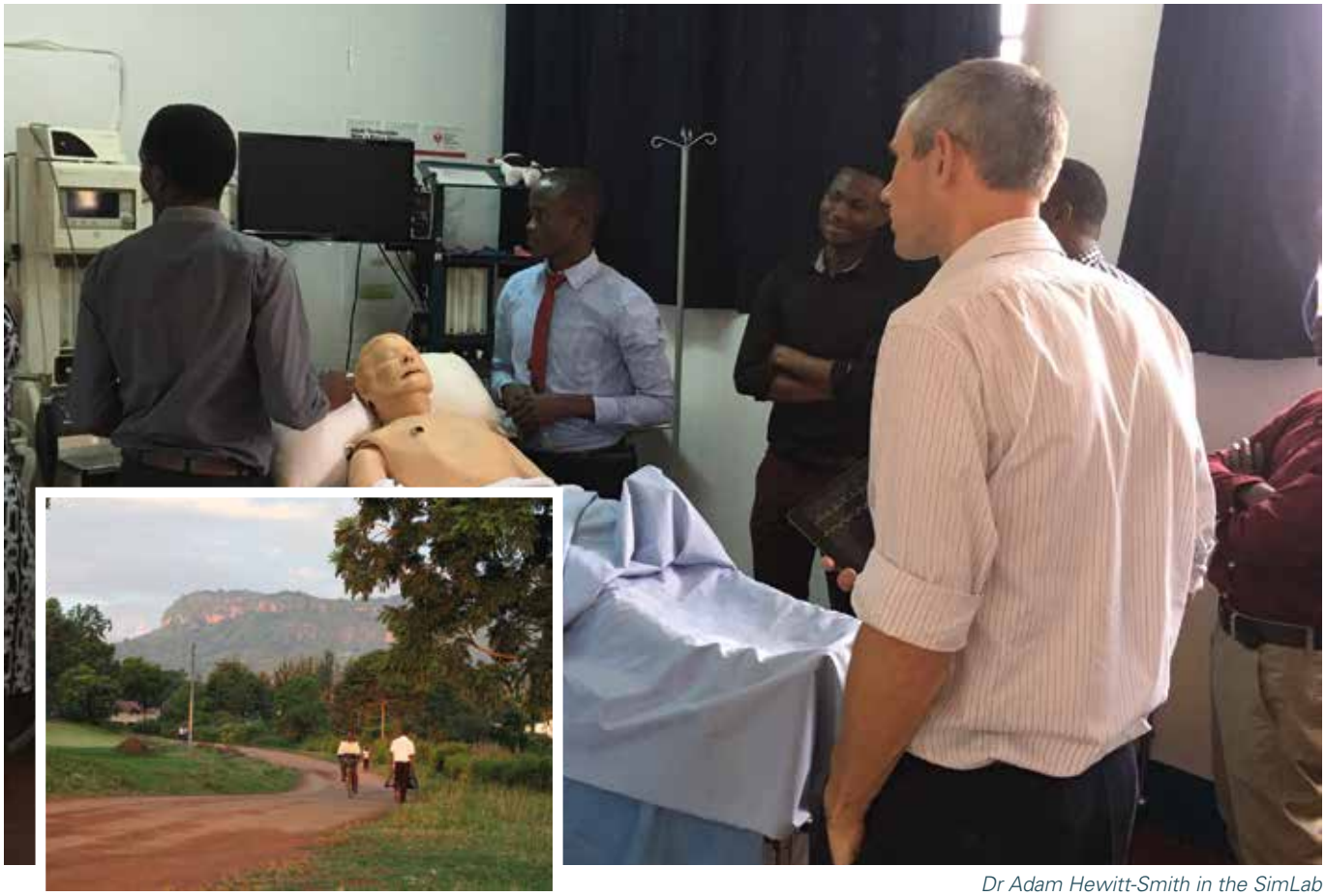

The beautiful countryside surrounding Mbale

Dr Adam Hewitt-Smith in the SimLab

A New Teaching Fellowship in Uganda

Barnaby Dykes

Former Musana International Anaesthesia Education fellow

Uganda, like many countries, faces a crisis in anaesthetic staffing. Over 70% of anaesthetic posts in the public sector are unfilled. The Musana International Anaesthesia Education Fellowship at Busitema University in eastern Uganda, is directly addressing this crisis by supporting high-quality, formalised training for non-physician anaesthetists.

The shortfall of anaesthetic staffing in Africa is not news but the numbers remain staggering. On the 'workforce map' published by the World Federation of Societies of Anaesthetists, the continent glows red in a sea of green that shows an abundance of clinicians in more developed countries.[1]

Uganda is typical and a comparison with the UK makes the crisis clear: it is estimated that the UK boasts 11,500 physician anaesthetists (18 per 100,000 population) while in Uganda there may only be 70 (0.18 per 100,000). Let that sink in – there are fewer physician anaesthetists in the whole country of Uganda than in most hospitals in the UK. The bulk of anaesthetic services across the country are provided by approximately 450 non-physician anaesthetists – skilled anaesthetic officers who have not been through medical school but have completed a three-year diploma in clinical medicine and a further two-year higher diploma in anaesthesia.

Anaesthetic staffing levels in Uganda are 20% of the bare minimum levels recommended by the World Health Organisation.[2] The public sector is comparatively understaffed - over 70% of anaesthetic posts are unfilled. Many anaesthesia providers also work in the private sector, where pay and working conditions are preferable. Even within the public sector, anaesthetic staffing is better in larger hospitals and urban areas. In theory, district hospitals and larger health centres should have anaesthetic cover at least sufficient to provide comprehensive emergency obstetric care, but such capacity is often lacking. Moreover, the lack of staffing has encouraged the provision of anaesthesia by practitioners with limited formal anaesthetic training.

There is an urgent need to train new anaesthesia providers and to develop high-quality training programmes.[2-3] The African Peri-Operative Research Group (APORG) has recently identified the development of formal training standards for peri-operative healthcare providers as the top priority for research on the continent.[4]

The Musana Fellowship Programme

The Musana International Anaesthesia Education Fellowship has been created to support one of Uganda's solutions to this challenge. It offers senior anaesthetic trainees from the UK the chance to help develop training for non-physician anaesthetists and in doing so contribute to strengthening the nation's healthcare system in a sustainable manner. Fellows are appointed for between 6-12 months and split their time between educational work in the Department of Anaesthesia at Busitema University and clinical duties at the adjacent Mbale Regional Referral Hospital.

I was lucky to go to Mbale as the first Musana Fellow to help develop this new and important project. Like many UK anaesthetists I have long wanted to work overseas in a resource-limited environment, and I have spent a long time looking for a project that contributes to enduring change. This opportunity was too good to ignore. After speaking to Fred Bulamba and Adam Hewitt Smith, who have developed the programme alongside the Department's growing international research portfolio.[5-7] I booked in to spend 8 months with the team.




Top left: The SimLab at Busitema University, Top right: Mbale in Eastern Uganda, Bottom left: The Department of Anaesthesia's Classroom at Busitema University, Bottom right: Dr Fred Bulamba in the SimLab

Teaching Anaesthetic Officers at Busitema University

The medical school at Busitema University was opened in 2013 and the Department of Anaesthesia was formed in 2016. There are currently almost 75 students on the BSc Anaesthesia programme, which lasts four years. During the first two years of the degree the students study medical sciences alongside the university's medical students. During the last two years of the degree the students undertake clinical anaesthesia placements at six hospitals across Uganda.

To understand the importance of this programme it is necessary to understand the difficulties in recruitment and retention that have prevented an adequate community of anaesthetic providers blossoming in Uganda. As in many countries, underinvestment has rendered anaesthesia an undervalued, technician-based specialty with low wages, inadequate equipment, poor professional reputation and conditions that hinder professional development. Historical training pathways for anaesthetic officers are beset by problems and the overall number of anaesthetic officers in Uganda has not increased in several years. For example, a clinical officer completing a higher diploma to become an anaesthetic officer takes on a greater workload and more responsibilities without any salary increase. The BSc Anaesthesia programme not only provides an integrated, competency-based curriculum that prepares students to work independently and safely as anaesthetic officers but also equips graduates with enhanced professional standing and access to higher pay scales.

As an educational fellow, I provided lectures to the students on a daily basis. It was a pleasure to teach the students, who are keen to learn and quick to absorb new concepts. The Department has its own classroom with a digital projector, a relative luxury in this part of the world. It also has a well-equipped simulation suite, an even greater luxury made possible through collaboration with the Global Anaesthesia team at the University of California, San Francisco.[8] The classroom and the simulation suite both get a lot of use. During my time in Mbale, we have delivered dedicated 'academic blocks' for the BSc

students and the medical students more generally and provided SAFE anaesthesia training as well as home grown critical incident simulation courses.

Alongside the rest of the Faculty, I also help to develop the BSc Anaesthesia degree programme. Great care is taken to ensure that we deliver high-quality training that is relevant for the practice of anaesthesia in Uganda. The curriculum is regularly reviewed, and we have recently developed a workplace-based assessment structure. Students on the BSc programme complete placements in training sites around the country and I had the opportunity to contribute to support supervision visits in some of these sites, for example at CoRSU Rehabilitation Hospital in Kampala.

Clinical Practice at Mbale Regional Referral Hospital

My experiences in Mbale have place the challenges of clinical practice in a low-resource environment in sharp focus. As a regional referral centre, the hospital provides tertiary referral services to approximately 4.5 million people. It is unsurprisingly busy. I can't say exactly how many operations are performed here each year, but the three main operating theatres run flat out and often until late at night. In obstetrics, up to 10,000 deliveries are performed each year and up to a dozen caeserean sections can be performed in a single day in the labour suite theatre. There is always an anaesthetic officer on duty and a physician anaesthetist on call. For this volume of work, the anaesthetic team is tiny: the hospital employs eight anaesthetic officers on a full-time basis and one physician anaesthetist as head of department.

In addition, three further physician anaesthetists volunteer when they get the chance between their commitments to the University and other hospitals. They are all heroes to me, and it was a pleasure to join them.

My clinical duties were mostly in main theatres but occasionally in labour theatre. For a trainee from the UK, there is a lot to get used to. I must adapt to regular shortages of drugs and disposables and to equipment that is often old and faulty. I must master new techniques including draw-over anaesthesia and I learn how to clean and disinfect my own equipment. I must work without the safety blanket of an ODP beside me. In the heat of the day it is often hot, sweaty work but it is very rewarding. I have relished the opportunity to work on the shop floor here, learning about the challenges that the team face and how they are being overcome.

Living in Mbale

Mbale teems with activity: the streets flow with boda boda drivers carrying people about their daily business and street-side stalls sell all manner of goods from mobile phones to matoke, a savory banana that forms the staple of the local diet. It is a snapshot of modern Uganda, encapsulating the hustle and bustle of the nation. Overlooking town from the east is the majestic hill of Wanale, the southern tip of an escarpment that runs north past Sipi falls towards Karamoja. Beyond it rises Mount Elgon, an extinct volcano on the border with Kenya with one of the largest calderas in the world. It is not hard to understand why the New York Times placed Uganda, the 'Pearl of Africa', among their 52 Places to Visit in 2020.

I had a great adventure in Mbale, both personally and professionally. It is the beginning of an enduring relationship and I hope future Musana Fellows will take away as much from the experience as I have. It is a rare opportunity from which fellows benefit as much as the anaesthetic officers they teach, and as such it has been endorsed by the Royal College of Anaesthesia for out-of-programme experience.

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INTERNATIONAL FELLOWSHIPS IN UGANDA

The Musana International Anaesthesia Education Fellowship is a new opportunity for senior anaesthetic trainees to help develop anaesthetic services in Eastern Uganda.

Successful candidates will be appointed as Honorary Lecturers in the Department of Anaesthesia at Busitema University, a public university offering training for non-physician anaesthetists. Time will be split between teaching in the department and clinical work at the adjacent Mbale Regional Referral Hospital. This is an exciting post with several opportunities, including:

- Teaching in the new simulation centre (including a program of SAFE anaesthesia courses)
- Exposure to challenging and varied clinical experience in a low-resource environment
- Engagement in local quality improvement and systems development projects
- Involvement with the department's growing international research portfolio

Positions are available for 6-12 months on a rolling basis. Fellows will be allocated a UK based educational supervisor by the Royal College of Anaesthetists and will receive mentoring locally by a UK trained clinical supervisor. Secure accommodation is provided by the university. The department endeavours to help arrange local and international funding.

FOR MORE INFORMATION

A full job description is available on the Royal College of Anaesthetists' Global Partnerships website.
Please contact us for more information: Dr Adam Hewitt-Smith (adamhewittsmith@gmail.com)

RCoA Royal College of Anaesthetists

The programme has been endorsed by the Royal College of Anaesthetists and the Association of Anesthesiologists of Uganda.
It is suitable for both out of programme experience (OOPE) and training (OOPT).

Association Of Anesthesiologists Of Uganda

The handheld portable device gave anaesthetists easy access to scanning

Introducing point-of-care ultrasound training in low-middle income countries

Julia Harrington

Former Zambia Anaesthetic Development Program Volunteer

Background

There is growing interest in the role of ultrasound as a diagnostic tool at the bedside in low-middle income countries (LMICs). By being low powered, mobile, delivered at point-of-care, cheaper, and readily learned by a variety of healthcare professionals, ultrasound is becoming increasingly favourable to cross sectional imaging which is often unavailable. In Zambia, the use of point-of-care ultrasound within anaesthesia had been previously introduced through regional anaesthesia teaching workshops, but it's use in the critical care environment has been limited due to a lack of consistent access to training and devices.

The University Teaching Hospital (UTH) is a 1,655 bedded tertiary referral centre in Lusaka, Zambia, which has a 16 bedded critical care unit. 2019 saw the introduction of point-of-care ultrasound training for doctors in critical care, driven by local interest in the expansion of ultrasound for this purpose and facilitated by a donation of an ultrasound machine. We report the benefits and challenges we have experienced in the initial stages of integrating ultrasound into training and clinical practice.

Training delivered in UTH

Training initially focused on critical care echocardiography, and three comprehensive focused intensive care echo (FICE) courses were delivered, accredited by the Intensive Care Society (ICS).[1] 16 physician anaesthetists, 5 internal medicine physicians and 7 paediatricians attended the courses, the syllabus to which was adapted from the ICS FICE programme and adjusted for the local context including disease patterns. Subsequently, a more general point-of-care ultrasound course focusing on regional anaesthesia, FAST scanning, and lung ultrasound was delivered due to high demand from anaesthetists and surgeons to expand training for this purpose.

Bedside workshops in the ITU were popular and allowed one to one mentoring of scanning

11 participants (surgeons and anaesthetists) attended this one day course.

Following the courses, mentored scanning through weekly workshops was introduced. Workshops took the format of structured drop-in sessions on the Intensive Care Unit which all course attendees were invited to attend. In addition, use of ultrasound guided regional anaesthesia in elective and trauma orthopaedic theatre lists with training to both anaesthetists and surgeons was increased. Training was delivered by ZADP fellows who had accreditation in ultrasound through FICE, CUSIC, and BSE accreditations, or substantial regional anaesthesia experience.

Benefits of the training

Point-of-care ultrasound training has seen local anaesthetists jump at the chance to participate. The proliferation of online learning material, podcasts and videos means that most of the anaesthetists we trained already had a personal interest in ultrasound and were familiar with image interpretation and theory prior to the introduction of the practical skills. The first benefit we encountered was the enthusiasm and increased drive for learning surrounding this skill.

We found that the training had a significant role in the clinical management of patients in critical care. Over the initial 12 week period following the FICE courses, 31 echos were performed by local anaesthetists during ultrasound workshops, of which 17/31 (55%) had an impact on clinical management. This was frequently in the diagnosis of undifferentiated haemodynamic collapse, often allowing inotropes or fluid resuscitation to be objectively guided. Spot diagnoses including a cardiac arrest caused by a tension pneumothorax, an aortic dissection in an obstetric patient causing cardiac tamponade, and gross hydronephrosis causing an acute kidney injury were amongst the life threatening diagnoses identified during training scans. Alongside the workshops, we also found that the addition of echo to clinical examination on ICU ward rounds increased as a result.

Clinical care in anaesthesia was also improved by increased capacity for regular regional anaesthesia, and there were substantial improvements in perioperative pain management in these patients. Although, ultrasound for regional anaesthesia is in its early stages, it has already been beneficial when shortages of opioids is a contemporaneous problem within the hospital. In two instances, surgery was performed under upper limb regional blockade only, negating the requirement for a general anaesthetic in high risk patients.

Engagement of anaesthetists in critical care

The Lancet Commission on Global Surgery includes development of critical care as an essential aspect of improving overall peri-operative facilities[2] yet critical care provision in Zambia is under resourced with a lack of consistency of medical staff.[3] Critical Care in Zambia is largely provided by physician anaesthetists and trainees, and although critical care is part of postgraduate anaesthetic training, there is no separate structured postgraduate training programme in the specialty. Unreliable supplies of drugs, lack of functioning essential equipment such as ventilators and monitoring devices, and the absence of invasive monitoring all make providing adequate level 2/3 critical care at present challenging. Engagement in ultrasound and providing doctors with the ability to make objective decisions quickly in life-threatening scenarios encourages autonomy and goal-directed decision making, which has led to many Zambian anaesthetists feeling more empowered in the critical care environment. Feedback from the three echo courses showed that attendants felt more confident to use echo in clinical practice (1- not confident at all, 5- very confident) to guide management decisions

Combining theory with practical sessions consolidated learning

POCUS was used on ward rounds to guide decision making including in deteriorating patients and cardiac arrests

(median response 4, range 3-5) and more confident to diagnose pathologies that would otherwise go undetected (median response 4, range 3-5). Subsequently, growing interest in Intensive Care has resulted and one anaesthetist has enrolled on a critical care Masters programme, and multiple other anaesthetists have been encouraged to spend more training time in the MICU with a view to subspecialising in this clinical field.

Local leadership and governance

Initially training courses and workshops were ran by overseas volunteers with skills and experience in ultrasound training, with the additional support in the regional anaesthesia training of one Zambian anaesthetist who had completed a regional fellowship.

Sustainability was a primary concern whilst introducing point-of-care ultrasound, and given the complexity of echocardiography and some of the regional techniques being taught, it was difficult to achieve competence to a level that could allow local responsibility of training. Training of simpler point-of-care ultrasound techniques such as lung ultrasound for pneumothorax rule-out, and FAST scanning in abdominal trauma has allowed some trainees the ability to develop as faculty members for the next trauma ultrasound course.

One of the challenges to governance of scanning is that accreditation programmes are currently difficult to achieve when there is just one ultrasound machine and few mentors for accreditation, as is the case in many LMIC. International accreditations usually demand a minimum of 30-50 scans are performed before an operator is independent to use ultrasound to guide clinical decision making. Focusing on regular training and skill development is therefore crucial. A survey to participants who came on the ultrasound courses revealed 90% of participants wanted to formerly accredit but the main barriers were a lack of mentors (10%), lack of supervised scanning time (40%), and lack of ultrasound machines (40%). Up to this point, the focus has been on collaboration between accredited volunteers and local trainees, but as the training progresses, it is envisaged that local leadership will ensue, and permanent doctors will be identified as ultrasound champions, competent to take over the training. There has also been the nomination of a local lead responsible for maintenance and care of the device.

The ultrasound courses were in high demand across multiple hospital specialities. Groups were small to allow for maximum scanning time

Future Direction

There are currently numerous areas of critical care medicine in LMIC that would benefit from focused development, however this combined with what is becoming an overwhelming culture of numerous quality improvement projects amongst overseas volunteers, often reduces the effectiveness of strategies implemented and sustainability may be threatened. Although complex to initiate, there is considerable drive and enthusiasm from LMIC anaesthetists for learning ultrasound-based skills. In addition, the identification of life-saving diagnoses, as well as the ability to guide critical care management of common presentations, highlights the overwhelming benefit to point-of-care ultrasound in resource-poor settings where imaging modalities may be limited . We believe that expansion of point-of-care ultrasound in anaesthesia and critical care training and practice in LMIC improves both training experience and patient care.

In Zambia, the initial phases of introducing ultrasound training has highlighted the need for regular, patient-focused, hands-on practical training to promote skill acquisition and sustainability. The focus now is around development of local champions who can accredit and use it routinely in their practice, as well as to take ownership of the training of colleagues.

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The training team with local surgeons and anaesthetist at the end of a training week in Matam

Pulling over for a pit stop on a long drive to the interior of Senegal

Challenges of Working with a Faith Based Organisation

Harriet Morton

Trust Grade post CT2
North East School of Anaesthesia

Introduction

Faith-based organisations and Mercy Ships

Faith-based organisations (FBOs) have long played a role in supporting the healthcare of developing countries. Although the exact amount is unclear, the World Health Organisation (WHO) estimated in 2007 that FBOs provided between 30 - 70% of healthcare services in Africa (Olivier, et al. 2015) (World Health Organisation 2007). Working with an FBO can bring unique challenges that are less commonly experienced in every day practice.

In 2019 I spent 3 months in Senegal with Mercy Ships, a faith-based organisation with the mission statement to 'bring hope and healing' to countries around the world (Mercy Ships 2020). I was part of a 6-person team travelling around Senegal promoting safer surgery through teaching and assisting in the implementation of the WHO Safe Surgical Checklist (Haynes, et al. 2009) (World Health Organisation 2020).

Established in 1978, Mercy Ships has worked in over 56 countries around the world providing free surgery and post-operative rehabilitation for tens of thousands of patients (Mercy Ships 2020). In more recent years the organisation has further developed its Medical Capacity Building branch, which focuses on reinforcing the health system of the host country through education, mentorship, training and infrastructure support (Mercy Ships 2020). Mercy Ships is a Christian organisation and the majority of volunteers working for Mercy Ships identify with a denomination of Christianity, but it does not require staff, programme participants or patients to do so (Mercy Ships 2020). Staff are expected to adhere to a code of conduct and attend a ship community meeting once a week.

Senegal

Senegal is located on the West African coast between Mauritania, Mali, Guinea and Guinea-Bissau. It has an estimated population of over 15 million people, of whom 94% are Muslim and 4% are Christian (United Nations 2020). The official languages are French and Wolof and there are 0.62

physician anaesthetists per 100,000 population (World Federation of Societies of Anaesthesiologists 2019). Senegal is ranked 127th on the inequality-adjusted Human Development Index - a tool used to identify the losses in human development due to inequality in income, health and education (United Nations 2020). For context, the UK is 15th (United Nations 2020). State funded health coverage applies to treatment of under-5s and over-60s, but these patients still have to pay for laboratory and radiological investigations.

The geography of Senegal meant that out team spent up to 4 weeks away at a time from the ship in Dakar, hundreds of kilometres inland with variable phone and data reception.

Personal motivations

Why did I do it?

The Lancet Commission on Global Surgery recognised the large burden that surgical diseases place on health and welfare, and recognised that improving the safety and standards of anaesthesia and surgery globally is crucial to reduce morbidity and mortality from surgical disease (The Lancet 2015). Use of the WHO Safe Surgery Checklist has been shown to reduce surgical morbidity and mortality, and while use of the WHO Checklist is second nature at home in the UK, many places around the world have not even heard of it (Gawande 2010).

Having finished the first 2 years of anaesthesia training in the UK, I wanted to develop my interest and gain experience in global anaesthesia and be constructive with the time I had taken in between training posts. I did not feel comfortable doing clinical work abroad without appropriate supervision, and such supervised posts can be hard to find. Mercy Ships offered the opportunity to be of use at a junior stage of my anaesthetic career and in a non-clinical role, helping to implement the WHO Checklist and promote safer surgery and anaesthesia throughout Senegal. I had read Atul Gawande's 'The Checklist Manifesto' and associated literature about the benefit and impact that checklists can have, and knowing such a simple tool can be implemented at no cost and brief training to hospital staff yet have a lasting positive impact appealed to me (Gawande 2010).

The itinerary

What did I do?

For 10 of the 12 weeks I travelled around Senegal in a team with 5 others in the role of a Safe Surgery Facilitator. Our team consisted of 2 local doctors, 1 local driver/logistician, 1 international co-ordinator (USA) and 2 international facilitators (USA & UK). We taught in a different hospital each week, spending time in the classroom and in the operating room (OR) to establish a rapport with the participants, learn how each OR team worked and introduce the WHO checklist and its component parts. The teaching was done by the 2 facilitators and the 2 local doctors - a series of lectures and discussion forums with participants, as well as time in the OR putting it into practice. By the end of the week in the hospital we aimed to have created a customised checklist specific to that operating department, agreed upon by all members of the OR staff and implemented with the support of our team. We would also meet and discuss the project with the hospital directors and senior administration staff, in order to facilitate the introduction and continued use of the checklist.

Challenges

It wasn't all plain sailing

My personal expectation was that all coming to work on the project would share the same drive for improving healthcare and that our values would be very similar. I thought we would quickly become a community of organised practice that would travel and work together and share experience of using the checklist with our Senegalese healthcare colleagues (Lave 1991).

Unfortunately, some significant unresolvable differences formed within the team. This was a challenging period for me as some of those differences were between another volunteer and myself. The other volunteer mainly attributed the issues between us to differences in faith. Although raised in a Christian household I do not identify with any particular faith, but consider myself an agnostic, global-health minded anaesthetics trainee with a primary motivation to help implement lasting change and safer surgery. This is not a situation I have previously experienced and despite attempts to improve matters, over time the situation deteriorated.

It felt clear to me early on that my motivations for joining the team were very different to the other volunteer. The faith differences were perhaps more on my mind than they would ever normally have been given that I know Mercy Ships is a Christian organisation. I therefore spoke to our senior team managers who assured me that my faith was not a problem for them or Mercy Ships.

It was of great assistance to have a RoCA Remote Educational Supervisor in the UK to contact and ask for advice. This was not a resource I expected to have available prior to arriving in Senegal and I found it provided significant support and helped me better structure my time with Mercy Ships. Speaking every few weeks and regular email contact meant I felt supported and able to seek advice from an impartial third party, who was able to suggest other strategies to try and defuse tensions and improve relations. These included advice about ways to de-escalate arguments and communicate during disagreements, as well as recommending manager-mediated team meetings when we were back on the ship. Unfortunately these suggestions were not successful either. Although the principal issue seemed to stem from religious beliefs and motivation for volunteering, following a period of contemplation and great reflection, I have wondered if there were other, more subtle issues, such as gender and cultural differences, contributing to the disagreements that went unacknowledged at the time.

At times the other volunteer seemed very emotional and often retired to their room, isolating themselves and skipping meals and team meetings. I therefore thought at length about the difficulty of remotely supporting volunteers from the organisation's point of view. As a charitable organisation, resources are finite (and indeed this consideration may need to be more at the forefront than in the NHS practice I have experienced to date) and one objective is to help as many people as efficiently as possible. Therefore, trying to bring any volunteers back early from their schedule or send other volunteers to support or someone to mediate would likely have detracted from other areas of the project and would likely have resulted in missed teaching for some hospitals. Not only would this disrupt the programme, it could potentially offend the hospitals with whom we were trying to build lasting relationships and undermine the wider impact of Mercy Ships' work in Senegal.

Ultimately, we delivered the course at all our target hospitals and got results that we had hoped for. However, I often wondered whether our team dynamics detracted somewhat from the important messages being conveyed through the Safe Surgery course, particularly regarding the importance of good teamwork and communication.

Lessons learnt

The big picture and my own professional development

FBOs play an invaluable role in providing healthcare to some of the world's most vulnerable people. Working for an FBO of a different faith should encourage diversity, invite a broader range of perspectives, and allow for growth, education and shared experiences (Gardyn 2003). Even without having exactly the same beliefs, I recognised that I shared the same core values as everyone else working in that situation, and was welcomed by everyone else that I spoke to within the organisation.

I have realised that conflicts can arise in any situation and from any origin, but most important is how the conflict is managed within the team. These experiences have both broadened my understanding and encouraged me to reflect widely on the topic. Not only is this the first time I have encountered a colleague with whom I could not resolve our differences, but this also occurred in the unconventional situation as part of an FBO in West Africa. Although the suggestions I tried were ultimately unsuccessful in this instance, I have improved my communication skills, gained experience in encouraging a growth mindset and in leading a team, and have learnt valuable lessons in resilience (Canter 2019).

What about next time

What would I advise others?

Reading about others' difficult experiences can be off putting to those interested in similar projects, but my advice would be: do not be discouraged (Doe and Bua 2020). I would do the same project again with the same people despite the difficulties we had, because the project was worthwhile and the results we saw outweighed the difficulties we faced. If faced again with a situation where conflict arose from different backgrounds, I would emphasise early that different backgrounds and beliefs do not make anyone's motivations any less worthwhile. The shared values are what has drawn the team to the project and should be central to the work of the team. I would try to emphasise mutual motivating factors and shared values to focus the group towards the common goal - improving safety in the OR through good communication, teamwork and use of the WHO Checklist.

Coming up against conflict within a small team requires resilience. I found I was able to be very clear regarding my motivations and values and therefore felt more resilient to deal with the disagreements when they happened. Having initially struggled with feeling like an imposter, once I had established clearly my motivations and values for being there, I felt more resilient in working there.

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Delegates at the GADP day in October 2019

Global Anaesthesia Development Project Day at the Royal College of Anaesthetists

Dr. Arthur Polela

MMed Anaesthesia and Critical Care (year 4), University of Zambia, Zambia Anaesthesia Development Program

"Are you sure you are ok to start? Shouldn't you wait for your consultant before you start this case?"

I couldn't quite understand why she was asking. Did I forget something? A quick mental check and I was sure I was ready to go. The anaesthetic machine had been checked, emergency drugs had been drawn, airway equipment had been confirmed, my consultant was right next door, and I confirmed one more time that I had the right patient on the table for the right procedure. Surely everything was in place. After all, I had already been anaesthetizing toddlers for over a month. I had just passed my primary and was comfortable giving anaesthesia to children, and I knew very well when I needed to call my boss. At least I thought so. So I was left wondering why the ZADP Fellow helping me in theatre with

training was asking if I should call my consultant.

Later that day, I realized why this picture could be perceived as inappropriate. But the critical shortage of Anaesthetic providers in Zambia means trainees often have to learn fast and take on huge responsibility, including managing cases without direct Consultant supervision, very early on.

My personal journey as an anaesthetic registrar has been life-changing. That journey led me to the Royal College of Anaesthetists in London in October 2019, where we presented some of our achievements with the Zambia Anaesthesia Development Program (ZADP) and its umbrella charity, the Global Anaesthesia Development Project (GADP), including a scheme providing one-on-one training and mentorship to Zambian anaesthetic registrars from NHS Anaesthetic Consultants. This particular project that I had the opportunity to present, in many ways, exemplifies the excellence of ZADP in that this initiative was initiated and implemented by local anaesthetists with support from the partnership.

The day brought together different professionals from various backgrounds and healthcare systems including those from Australia, Canada, Ethiopia, Rwanda and Zambia. There was also representation outside anaesthetics, such as Dr. Amon Ngongola, a paediatric surgeon from Zambia, who spoke about the Inspire through Clinical teaching course.

The goal of the day was simple: to discuss issues pertaining to Global Anaesthesia and to share the work of international organisations in the field. Perhaps this demonstrates the comparative edge that GADP has over most other charities. Their growth has been organic, starting out after first hand experiences working in the low-resource setting of Zambia and throughout its development, there has been significant involvement of local Anaesthetists.

Probably my most memorable presentation from the GADP day was from Dr Dylan Bould. Dylan comes with a wealth of experience from well-developed systems such as Canada, to systems that are in the process of development such as Rwanda and Zambia. He highlighted that the Lancet Commission on Global Surgery indicators, which include an aim to have an increase in skilled surgical workforce to at least 200 Surgeons, Obstetricians and Anaesthetists for every 1 million people by 2030, may not be achieved. With a population of nearly 18 million in Zambia, and approximately 50 physician anaesthetists and 14 currently in training, we are unlikely to meet the target of an extra 3,550 specialist anaesthetists over the next 10 years. The math simply suggests this is unlikely to happen. But that is no reason to despair. Nepal, a country with a population of about 18 million at the time, which is comparable to Zambia's 18 million now, is said to have had only 7 Anaesthetists in 1985. With deliberate interventions, they have managed to grow that number to an estimated 200 currently and have a well-established training program. Yes, we might not get there in the next 10 years but we are not stagnant and we continue to make progress.

Arthur at the GADP day

This point was stressed by Dr. Hazel Mumphanshya, Consultant paediatric anaesthetist and lecturer at the University of Zambia, herself a product of the postgraduate training that ZADP continues to support. Many times too much emphasis is made on the "numbers" as we attempt to measure and quantify the impact. But I argue that a lot of the impact is probably immeasurable. We will never know the true impact the introduction of physician anaethetists has had at the University Teaching Hospital, Zambia, where I work, from better pain management, to reduction of critical incidences and improved outcomes. We may never know the full impact, but that things have improved is evident from the stories told by health workers that have been in the sector for a long enough time. On a personal level, the exposure and opportunities that being an anaesthetic registrar has availed, have been life changing. Not only from the clinical skills acquired but also from the new networks and non-clinical skills that I apply daily in other aspects of my life.

One thing that we all seemed to agree on at this event, was the need of a "critical mass" of locally trained anaesthetists in decision making positions in Zambia. These need to be the advocates for not only safer anaesthesia, but also for the welfare of anaesthetists as they are at high risk of burnout due to a serious shortage of qualified anaesthetists. Progress has been made. More and more anaesthetists are making the right noise in different spheres and becoming more influential. This is important because many times patients suffer not necessarily because of poor clinicians, but from poor management of both material and human resources. And as we endeavour to become the future leaders of our health system, it is important to make sure that we are exposed and knowledgeable about how other health systems such as the NHS in the United Kingdom and the Department of Health in the Western Cape of South Africa, are organised and run. This is an element well understood by GADP and they have organised clinical and non-clinical fellowships to these places. This has enabled those that have been privileged to attend these to come back home with new knowledge and new ideas that will help improve patient care and improve outcomes.

Ethics was another hot topic at this event. We discussed "ethical volunteering" and what it meant for each one of us. It was interesting how we each had different perspectives and yet we seemed to agree on a common theme. With very few anaesthetic providers coupled with huge limitations in resources and equipment, I can only imagine how often visiting specialists find themselves having to deal with ethical issues. Should the same standards that apply in high-income countries (HIC) be applied when volunteering in low-income countries? How practical is this? When can this be upheld and when can we "loosen up"? One said, "If you wouldn't do it in HICs then don't do it anywhere else". This should generally be the rule, but it gets complicated when you are on the ground and many have been overwhelmed. This has lead me to believe that as we develop, we need to adopt our own standards that are suitable for our environment backed by evidence, that we will continue to amend as we grow into a mature health system. This can only happen by strengthening research and a pragmatic approach to the problems that we face today. The application of international standards may mean denying patients access to potentially life-saving procedures, even when the intentions are innocent and well-meant. The gap is huge but this calls for consented efforts, careful planning and deliberate actions aimed at taking safe surgery to all corners of Zambia.

Many other topics were discussed, too numerous to list. As the day ended, we all gathered for the traditional group photo. And as I got back home, I couldn't help but admire the zeal that everyone connected to GADP continues to exhibit. How many fellows from many years back continue to contribute to its development in different ways? The network is huge and continues to grow. It is this that gives me the confidence to believe that GADP will continue to play a significant role in the growth of anaesthesia in Zambia for many years to come.

GASOC Committee

Tackling the perceived negative connotations of trainees working in Global Anaesthesia - Global Anaesthesia, Surgery and Obstetric Collaboration (GASOC)

Dr. Reema Patel

Anaesthetic Representative, GASOC

ST3 Intensive Care Medicine, NHS Lothian

Towards the last six months of my Core Anaesthetic training I was hunting for the opportunity to clinically practice global health. As the Anaesthetic representative for GASOC, I had a platform to share and discuss my global health ideas, however, I was still keen to go to a country and assist with service development on the ground.

It is easy to be disheartened by these and other misconceptions people have about Anaesthetic trainees working in low-middle income countries (LMICs). I came up against similar attitudes when discussing the subject with my own

"What can a trainee possibly contribute to such a resource limited environment?"

"Just finish your exams and training and then you can think about Global Health."

seniors. However, my experiences during my recent fellowship working in the Anaesthetic department at The Black Lion Hospital in Addis Ababa, directly contradicts this common narrative and has made me more acutely aware of the reciprocal learning from meaningful partnerships abroad.

Recent research presents 'reverse innovation' from international trainee fellowships as a transformational benefit for the individual volunteer, the host organisation and also NHS as a whole. A deeper understanding of different healthcare systems can lead to an increased ability to implement service development, translating to more effective service delivery. In addition, working in a multi-cultural, multi-disciplinary team can lead to a more motivated workforce.[1] Being part of a multi-cultural team with patients speaking different languages can stretch and subsequently improve, a healthcare worker's ability to communicate within the NHS. Furthermore, the ability to teach more effectively has been cited as being most frequently enhanced by working as part of a Global Health Partnership[2] - something that I have experienced personally since being back in the United Kingdom.

There are already a number of organisations that understand the importance of 'reverse innovation'. Health Education England have worked on providing a guidance document for trainees planning to volunteer or work overseas which outlines some of the ethical and logistical considerations for trainees wishing to pursue a placement abroad.[3]

The Royal College of Anaesthetists (RCoA) have developed e-Learning for Healthcare modules on Anaesthesia for Humanitarian and Austere Environments which help highlight some of the differences Anaesthetists will experience when working in a resource-poor environment.[4] In addition, the optional Higher training module in 'Anaesthesia in developing countries' further highlights that the RCoA recognises the value to UK-based trainees of working in LMICs. However, the availability of opportunities in global health is failing to match the volume of demand for such experiences.[5]

So why is it difficult as a trainee to find the best way in to the world of Global Health?

Maintaining interest in Global Health during foundation training and throughout subsequent training years can be a challenge. The ongoing negative perceptions at a local level can do more than just discourage trainees from finding out more - it can deter them for life. The physical and emotional impact of being a foundation doctor can lead to a large focus on the job with an inevitable reduction in time spent in global health. Furthermore, a lack of flexibility in subsequent training programmes limits the time for global health-specific training. It can also be difficult to find like-minded trainees who can see beyond the time-bound career path of working towards becoming a consultant in the NHS.

This is where the formation of Global Anaesthesia, Surgery and Obstetric Collaboration (GASOC) has proven to be vital.

Global Anaesthesia, Surgery and Obstetric Collaboration (GASOC)

Since its inception, GASOC has worked at a national and international level to encourage medical students and trainees from differing specialties to advocate for, and participate in, global health projects. Formed during the Global Surgical Frontiers Conference in 2015, GASOC has filled a niche role by providing trainees an opportunity to meet other Global Health enthusiasts at its annual conferences and learn more about global health research during its bi-monthly journal club.

By working with organisations such as Incision UK, a global surgery group led by medical students, GASOC hopes to minimise the number of doctors interested in Global Health being 'lost to the follow-up' in their transition to junior doctor. Our recent conference included an Incision-led session highlighting the impact of COVID-19 on medical student training in the UK but most importantly, across the globe. Such collaboration can also cultivate enthusiasm held by foundation trainees interested in Global Health.

Coffee room talk always highlights just how many doctors have actual experience of working in LMICs. However, stakeholders, in this case training bodies, need sufficient 'buy-in' to allow for a cultural change within the system of training. GASOC has strived to make such work the norm by collaborating with organisations such as the RCoA, The Association of Anaesthetists (AoA) and the Royal College of Surgeons, all of whom recognise the benefit of having their trainees spend time working on global health projects.

Becoming co-opted members of the International Relations Committee (IRC) at the AoA has been a huge achievement for GASOC. For the first time, it seems trainees working in global anaesthesia have been officially recognised as an asset to influential organisations. The IRC has provided the opportunity to collaborate with organisations such as the World Anaesthesia Society and further links with the World Federation of Society of Anaesthesiologists. Continuing work with the AoA IRC may allow for closer links with the AoA trainee committee which would allow GASOC's Global Health advocacy work to reach even more Anaesthetic trainees in the United Kingdom.

GASOC has also recently secured a position on the permanent council of the G4 Alliance, an organisation involved in high level political advocacy, which has given the committee the ability to reach more trainees across the globe from all specialties - something that was demonstrated by the attendance of 249 people from 22 different countries at its recent Virtual Frontline Global Surgery Conference.

As the demand for Global Health related projects increases, GASOC continues to grow as an organisation. As one of the few UK-based, multidisciplinary organisations advocating for trainee involvement in Global Health, GASOC is in a unique position to facilitate conversations between postgraduate deans, Training Programme Directors and trainees which may well lead to increasing flexibility within training programmes to allow for such placements. One of GASOC's future strategies includes holding a series of regional events that would bring together the aforementioned stakeholders, consultants and trainees interested in Global Health. These events would allow for the opportunity to learn from personal experiences by sharing real-life examples of the reciprocal benefits to the NHS of doctors working in LMICs. Making these regular may assist in breaking down the perceived negative connotations associated with working in LMICs with the hope of encouraging more trainee involvement.

Conclusion

The significant reciprocal benefits to the individual doctor and wider NHS from trainee involvement in global health projects, outweighs the historical reluctance for such initiatives. GASOC continues to work with stakeholders to further the wishes of enthusiastic trainees that want to continue to be involved in valuable partnerships with colleagues both in the UK and LMICs.

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From the journals

A commentary in BMJ Global Health published at the end of last year sparked a lot of debate both online and in the journal's correspondence page. The article by Nicholas King and Alissa Koski was titled 'Defining global health as public health somewhere else' (BMJ Glob Health 2020;5:e002172).

They argued that whilst there are many definitions of global health, none had distinguished it from public health. They therefore proposed that a definition that describes its distinction from public health and did so to challenge the assumptions about global health. It is a thought provoking article which is well worth a read, and led to some very interesting responses.

This particular debate led me to think about my own interests and opinions on this. I like to think that I have an interest in 'global anaesthesia', but thankfully no one as yet has asked me to define it. To extrapolate the above definition would mean that I am only interested in anaesthesia somewhere else. This is clearly not the case as I am obviously interested in anaesthesia here in the UK as well, so to define it as an interest in anaesthesia everywhere would probably be more accurate. We often use the term global anaesthesia to mean those areas of the world where anaesthesia is given with limited resources. Though of course to colleagues working in such settings, it really is just anaesthesia.

Public health and global health has never been more in the public eye since the onset of the pandemic, and the notion that the expertise lies in the 'global north' is being challenged with a call to decolonise global health. This is an important, complex and timely debate, so more on this in the next edition of the newsletter. Feel free to get in touch if you have any thoughts on this issue.

Meanwhile, away from the debates about global health, Anesthesia and Analgesia continues to publish interesting global health articles. An article from their January 2020 edition gave a current perspective on anaesthetic capabilities in Bangladesh, although disappointingly for a global health article, it is behind their pay wall (Meadows JW et al. Anesthesia infrastructure and resources in Bangladesh. *Anesth Analg* 2020;**130**:233-239). This study updated previous work that had been done in 2012 during which significant deficiencies in the surgical and anaesthetic capacity were noted in 14 public hospitals in Bangladesh. It described the anaesthetic workforce and the many routes of becoming a physician anaesthetist in Bangladesh, which only has 952 anaesthesiologists for a population of over 160 million.

The usual limitations in equipment, monitoring, and drug availability were detailed. Although there is perhaps nothing unique about this study, I do think that it is probably important to publish such work. Highlighting to both governmental and non-governmental organisations where the deficiencies in safe surgical and anaesthetic care lie can only help to support the argument for strengthening these health systems. Bangladesh is yet to engage in the process of developing a National Surgery, Obstetric and Anaesthesia Plan, and the information from sources such as this study may be useful to support this process.

Anaesthesia produced a nice summary info graphic for their article on the priorities for peri-operative research in Africa (Biccard B, and the APORG working group. Priorities for peri-operative research in Africa. *Anaesth* 2020;**75**(S1):28-33). The article itself was written by The African Peri-operative Research Group working group, a team of 38 clinicians from across Africa who had previously been involved in the African Surgical Outcomes studies. Using a Delphi process they whittled down 158 potential research topics, to reach a consensus agreement for the top 10 research priorities. These cover a range of priorities, such as training standards, communication, identification and management of peripartum haemorrhage, establishing evidence based practice guidelines, setting up a surgical registry, and improving implementation of the surgical safety checklist. It is an interesting list, which combines audit, quality improvement and guideline development, and it is hoped that it will provide some focus for researchers in Africa over the coming years.

A mixed-method design evaluation of the SAFE obstetric anaesthesia course at 4 and 12-18 months after training in the Republic of Congo and Madagascar published in A&A (*Anaesth Analg* 2019;**129**:1707-1714), gives more evidence to the impact of short term educational courses. The Safer Anaesthesia From Education Obstetric Anaesthesia (SAFE-OB) course was designed by the Association of Anaesthetists and run by the WFSA (World Federation of Societies of Anaesthesiologists) as a refresher course for anaesthesia providers in settings where there is little continuing medical education.

The study interviewed participants of SAFE-OB courses at 4 months and 12-18 months after they had undertaken the course. They reported changes in their practice as well as changes in the organisation in which they worked, in addition to discussing some of the barriers to change that they had come across. The answers that the participants gave were grouped into themes and 4 areas of practice that were felt to have changed since the course were the use of the ABC structured approach, the management of obstetric haemorrhage, the management of eclampsia and use of spinal anaesthesia. In addition to the interviews, knowledge and skills were tested and showed a sustained improvement giving quantitative evidence to the qualitative study. Changes in organisational culture included the development of local guidelines, improved teamwork, communication and preparation. This study adds some important longer term follow up to the evidence for short educational courses, which is often lacking as it can be difficult to obtain. For those who have taught on SAFE courses, it is heartening to read that not only were the courses enjoyable and relevant for the participants, there were sustained improvements in their knowledge and skills which led to changes in their practice in addition to changes in their organisations culture.

An interesting abstract was submitted to the Association of Anaesthetists Winter Scientific Meeting. (Kudsk-Iversen S et al. A comparison of techniques used by physician anaesthetists in the U.K. versus in the humanitarian setting: are we adequately prepared? *Anaesth* 2020:**75** (Suppl. 2); 82).

A team from Oxford and Médecins Sans Frontières compared anaesthetic techniques used by physician anaesthetists here in the U.K. to when they are on MSF missions. With more emergency and obstetric cases undertaken in humanitarian settings, together with fewer cases under volatile anaesthesia and a higher use of ketamine anaesthesia, the authors concluded that there are considerable differences between practice in the UK and with MSF. Whilst this obviously isn't surprising news to anyone who has worked with MSF, it is nice to highlight these issues when thinking about how to train those interested in working in such challenging settings.

Finally, some curious guidelines have been produced by a group from the US for those conducting plastic reconstructive trips to LMICs (Politis GD et al. 2020 guidelines for conducting plastic reconstructive short-term surgical projects in low-middle income countries. *Pediatr Anesth*. 2020;**00**:1–14). I will leave the debate on whether short-term surgical projects are beneficial to another edition of this newsletter. However, those who have worked in limited settings or who go on short-term trips might find the guidelines interesting.

Useful Information

Courses in Anaesthesia for the Developing World
Anaesthesia for Developing countries - 5 day course Kampala Uganda (annually)
Contact: Dr Hilary Edgcombe, Nuffield Dept of Anaesthesia, John Radcliffe Hospital
Headley Way, Headington, Oxford OX3 9DU, UK
Tel: (+44) 01865 221590 E-mail: events@ndcn.ox.ac.uk

Developing World Anaesthesia
1 day course at Royal College of Anaesthetists
Contact: dwacourse@gmail.com

Essentials of Anaesthesia in the Developing World
1 day course at The Bill Mapleson Centre, Mountain Ash, Wales
Contact: http://www.bmc.wales/developing-world

Organisations

Anaesthetic Fellowships
On online resource for anaesthetic trainees looking for overseas fellowships.

www.anaestheticfellowships.org/fellowships-by-specialty/developing-world

AMREF Flying Doctors
Based in Nairobi, this flying doctor service provides medical evacuations and repatriation. The Volunteer Physician Programme allows doctors to volunteer for a minimum of 4 weeks.

flydoc.org

Douleurs san Frontieres (DSF)
A French NGO (Pain without borders) that promotes a multidisciplinary approach to the diagnosis, treatment and management of acute and chronic pain in resource poor settings.

E-mail: dsf.france@doulers.org

www.douleurs.org

Durbin
A specialist medical supply company that sells drugs and equipment to developing countries.

www.durbinglobal.com

Essential Pain Management Global
A course developed in conjunction with the Faculty of Pain Management to improve pain management worldwide by working with health workers at a local level.

www.rcoa.ac.uk/faculty-of-pain-medicine/essential-pain-management-global

Global Anaesthesia, Surgical and Obstetric Collaboration (GASOC)
A UK based all-encompassing trainee group with a focus on global surgery. Organises bi-monthly journal clubs, conferences and acts a resource for trainees within the global health scene.

www.gasocuk.co.uk

Health Books International
Previously known as Teaching-Aids at Low Cost (TALC), this unique charity supplies low cost healthcare training and teaching materials to raise the standard of healthcare and reduce poverty worldwide.

healthbooksinternational.org

Health Volunteers Overseas
A US based organization dedicated to improving the availability and quality of health care in developing countries through education, training and professional development of the workforce.

www.hvousa.org

HINARI
The HINARI Programme, set up by WHO together with major publishers, enables developing countries to gain access to one of the world's largest collections of biomedical and health literature. More than 7,500 information resources are now available to health institutions in 105 countries.

www.iars.org

International Anesthesia Research Society (IARS)
A non-political medical society founded in 1922 to advance and support anaesthesia research and education. Publishes Anesthesia and Analgesia which has a global health subsection.

www.iars.org

If you wish to advertise your organisation on this page (free-of-charge), please contact:

The Editors: **WorldAnaesthesiaNews@gmail.com**

The International Committee of the Red Cross (ICRC)

The ICRC acts to help all victims of war and internal violence, attempting to ensure implementation of humanitarian rules restricting armed violence.

www.icrc.org

International Relations Committee (IRC) of the Association of Anaesthetists of Great Britain and Ireland (AAGBI)

The IRC has a major role in co-ordinating and facilitating overseas anaesthetic training programmes, visiting lecturerships for refresher courses and distribution of limited supplies of textbooks and equipment to developing countries. It administers the Overseas Anaesthesia Fund to facilitate donations to assist in this type of work.

www.aagbi.org

Lifebox

Lifebox is a not-for-profit organization saving lives by improving the safety and quality of surgical care in low-resource countries by ensuring that every operating room in the world has a simple pulse oximeter.

www.lifebox.org

Medecins Sans Frontieres (MSF)

MSF offers assistance to populations in distress, to victims of natural and man-made disasters and to victims of armed conflict. They require volunteers for both long and short-term projects.

www.msf.org.uk

Mercy Flyers

Mercy Flyers is a not-for-profit organisation whose mission is to take specialist medical care to those who are geographically remote and living in poverty in southern African countries.

www.mercyflyers.org

Mercy Ships

Mercy Ships provides free surgery and medical care, and partners with local communities to improve health care, offering training and advice, materials and hands-on assistance.

www.mercyships.org.uk

Mothers of Africa

Mothers for Africa is a medical educational charity that trains medical staff in Sub-Sahara Africa to care for mothers during pregnancy and childbirth.

www.mothersofafrica.org

Primary Trauma Care Foundation

An organisation training doctors and nurses in the management of severely injured patients in the district hospital.

www.primarytraumacare.org

REDR

RedR is an international charity that improves the effectiveness of disaster relief, helping rebuild the lives of those affected. They do this by training relief workers and providing skilled professionals to humanitarian programmes worldwide.

www.redr.org.uk

REMEDY (Recovered Medical Equipment for the Developing World)

A US based charity that recovers wasted medical supplies and arranges distribution to the developing world.

www.remedyinc.org

Royal College of Anaesthetists

Global Partnerships department at the RCoA coordinates overseas trainee fellowships in low and middle income countries. It also provides information for International Medical Graduates wishing to work in the UK.

Contact:
Global@rcoa.ac.uk

www.rcoa.ac.uk/global-partnerships

Society for Education in Anesthesia

International members are invited to join this Society that promotes techniques and excellence in the teaching of anaesthesia.

www.seahq.org

THET (Tropical health and Education Trust)

THET is committed to improving health services in developing countries through building long-term capacity. Invests in partnerships with funding from Department for International Development.

www.thet.org

World Federation of Societies of Anaesthesiologists (WFSA)

The World Federation of Societies of Anaesthesiologists (WFSA) is a unique organization in that it is a society of societies. By virtue of membership in a national society, an anesthesiologist is automatically a member of WFSA. The objectives of the WFSA are to make available the highest standards of anesthesia, pain treatment, trauma management and resuscitation to all peoples of the world. The WFSA also publishes Anaesthesia Tutorial of the Week, an online educational resource for anaesthetists, and Update in Anaesthesia, an educational journal.

www.wfsahq.org

VSO (Voluntary Service Overseas)

VSO is a leading development charity that sends volunteers to work abroad with good pre-deployment training.

www.vso.org.uk

World Anaesthesia Society

Application Form

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