In this issue:

Critical Care in low income countries
High dependency care in Ethiopia
Florian R. Nuevo MD

UK anaesthetic trainees’ perspectives on preparedness for global anaesthesia practice
The Zambia Anaesthesia Development Project – 18months in…

Operation Smile:
The Vietnam Mission
Prolapse Down Under in Nepal
An opportunity to make a difference
World Anaesthesia Society Travel Grant

The World Anaesthesia Society is offering a grant of up to £1000 for trainee anaesthetists wishing to work or teach in a developing country.

Application and award of these grants will be through the travel grant system run by the International Relations Committee of the AAGBI with two grants awarded each year.

Further information and application forms available at www.aagbi.org
Welcome to our bumper summer issue of World Anaesthesia News. We have been blessed with so many quality articles that we have just had to expand our waistline somewhat.

We open with a report from the excellent inaugural World Anaesthesia Society trainee day that was held at the AAGBI in February. This exciting, overbooked seminar was a wonderful opportunity for trainees with the inclination to go overseas to find out how to do it. A well-evaluated day, ended with a sociable drink and plans for a 2015 seminar. The Southampton Global Anaesthesia Conference was held just before Christmas and boasted a truly eminent faculty. Twelve different developing countries were represented across the 41 delegates, 12 speakers, oral presentations and posters. The organizing committee from Southampton General Hospital lead by Ollie Ross are to be commended and encouraged to turn this in to an annual event.

Critical care in the developing world may well be in its infancy, but with inspiring protagonists such as Tim Baker and Tom Bashford it is rapidly climbing the agenda. We are fortunate to have articles from each of them, Tim Baker setting the scene and Tom Bashford describing his experience and achievements in Ethiopia.

In a slight departure form the typical WAN article, we have an interesting survey from John Kinnear and Preea Gill highlighting that whilst developing world anaesthesia is an aspiration of many trainees in the UK, only a few feel prepared for the daunting challenge. This reinforces the importance and usefulness of seminars such as those already mentioned, and demonstrates how the World Anaesthesia Society is perfectly placed with the links and expertise to help and support. Four leading projects are examples of ‘how to do it’. Emma Lillie gives us an insightful update to the first 18 months of the Zambia Anaesthesia Development Project (ZADP), Jildou van der Kaaij provides a very descriptive account of the ‘Anaesthesia in Developing Countries’ course run by the Nuffield Department of Anaesthesia, Shilpa Reddy writes about her Operation Smile experience, and Marissa Ferguson discusses the work of Australians for Women’s Health. All of that, plus a profile of Florian R. Nuevo MD, Chairman of the WFSA Executive Committee 2008 – 2012, and an introduction to the charity Safe Anaesthesia Worldwide.

We are sure that you will agree that there is something inspirational for everyone in this issue, and if anyone should ask you what the World Anaesthesia Society does just hand them this copy of WAN!

Finally, we ask for more articles, correspondence and letters, and urge you not to miss the World Anaesthesia Society session on Wednesday 17th September at the AAGBI annual conference in Harrogate, which will be chaired by Isabeau Walker and will feature lain Wilson and Eoin Harty.

Sarah O’Neill and Gordon Yuill
Editors
The RCOA states that it ‘strongly supports trainees taking time out of training to widen their clinical skills and knowledge’. Trainees are now grasping more opportunities to work in the developing world. However, finding out how to organise this work and what opportunities are available is not easy. The aim of this seminar was to focus on the trainee and answer the key questions - how do you organise time out of training and what opportunities are there for trainees with various organisations?

Fully booked to the point of over-subscription with some delegates unfortunately being turned away, the seminar seems to have been a long-awaited event and a successful one too. Eighty-two percent of attendees who provided feedback rated the seminar as ‘excellent’. Some of the comments also indicated this: ‘thanks so much – exactly what I wanted’, ‘fantastic seminar’ and ‘very informative’.

There was a diverse line up of speakers and the day was divided into 3 sections - Trainee Experiences, Organising time away, and Trainee Opportunities in the developing world.

Speakers highlighting trainee experiences were Dr Preea Gill, Dr Nur Lubis and Dr Melissa Dransfield. They described exciting and varied times away from training and gave a taster of some of the opportunities available. They explained the problems encountered and benefits gained from working in the developing world as a trainee.

The organisation section was led by Dr Lila Dinner - Training Program Director from the North Central London School of Anaesthesia and Dr Jo James from the RCOA. They explained the process of applying for time away from training and the origins of the module in ‘Developing World Anaesthesia’ respectively. Both speakers stressed the importance of involving the RCOA early in the application process and advised on early planning as a priority to making time away easier to achieve.

Representatives from the Tropical Health and Education Trust (THET) presented the results of
the global collaboration survey, collating anaesthetic projects in the developing world and listing them for future volunteers. Dr Ben Gupta also joined us to give us a taste of some of the equipment and drugs available (and not available!) in resource poor countries. He also highlighted the courses available to trainees before they leave the UK for the developing world.

Our last section was a sequence of talks from a few organisations including Médecins Sans Frontières, VSO, Operation Smile, Mercy Ships and the Ugandan Maternal and Newborn hub. This was a full session which gave some examples of organisations that would accept trainee volunteers and how to get involved. It was clear that organisations differed in their aims and needs. Some were very welcoming of trainees and others required more experienced doctors. Some focused on short term missions but others looked at longer-term partnerships. The idea of sustainable, ethical volunteering was a common theme.

The day was packed with information from speakers who were both enthusiastic and realistic about trainees working in the developing world. We were fortunate to be so kindly treated by the staff at the AAGBI with great food and hospitality. The delegates enjoyed sharing experiences and tips. It was clear that there are differences between training regions in terms of support for training in the developing world though this will hopefully change! Discussions continued well into the evening over flavoured beers at a nearby pub - conversation and beverages were enjoyed responsibly by all!

Acknowledgements and thanks to the events staff of the AAGBI and our fantastic speakers.

Thanks to the popularity and success of the event, it will be running again next year. Details will appear on the AAGBI website and will be emailed out to WAS members.
In recent years there has been growing support for education and training in anaesthesia in resource-poor settings. UK trainees in particular are actively encouraged to work in developing countries to gain out-of-programme experience and support the development of international health links between low-income countries and NHS departments. Developing world anaesthesia fellowships, specific training programmes and a variety of educational material are becoming more widely available.

In Southampton, a group of anaesthetists with an interest in developing world anaesthesia recognised the need for further education and dissemination of information regarding global anaesthesia projects. We wanted to share ideas, provide information regarding how anaesthetists at different levels might become involved in overseas initiatives, support a discussion forum for experiences, and enable networking and collaboration on different projects in an affordable and friendly manner.

From these beginnings the 1st Southampton Global Anaesthesia Conference was born. With 12 different developing countries represented across the 41 delegates, 12 speakers, oral presentations and posters, the conference promised to be an exciting new event. It was held in the Hilton Hotel, Chilworth on 19th December 2013 and organised by a committee from Southampton General Hospital lead by Dr Ollie Ross.

The day kicked off with Dr Malvena Stewart-Taylor, a Consultant Anaesthetist at Southampton General Hospital who gave an excellent talk on the Afrikids programme she runs in Ghana.

“The excellent idea to get people together and share ideas and experiences. Really informative, enjoyable and valuable”
This is a fine example of the delivery of sustainable improvements in health and healthcare in a developing country. She emphasised the importance of partnerships, the potential benefits of working within a framework, and also the personal benefits of such work to those directly involved, and to the NHS in terms of leadership skill development.

“Course was amazing inspiration. Thank you very much for organising. Enjoyed every talk”

She was followed by Dr Phil McDonald who shared his wealth of experience as Medical Director for Operation Smile and how this led to setting up an educational link with Jimma University in Ethiopia. The Jimma link is a programme which commenced in 2012 when one of us was fortunate to have the opportunity to pilot the initial programme. It is now in its second year and allows trainees from KSS Deanery to work at Jimma University and in the Department of Anaesthesiology as “Visiting Lecturers” (VLs) for 3-6 months during their higher training years. VL’s have been involved in training BSc level student anaesthetists, writing a postgraduate syllabus for postgraduate physician training in anaesthesia, starting a recovery area, new guidelines, audit, initiating the WHO checklist and targeting specific areas such as ICU and obstetrics for further educational initiatives.

Dr Tei Sheraton, the Chair of Trustees for Mothers of Africa talked to us about what they have learnt about developing country partnerships. Mothers of Africa is a medical educational charity that trains medical staff in Sub-Saharan Africa to care for mothers during pregnancy and childbirth. It was initiated in 2004 and now operates in Benin, Togo, Liberia and Zambia. Tei discussed the differences between relationships and partnerships in establishing improvements in the provision of developing world healthcare. We learned that whilst relationships share a mutual goal and are often developed first, good partnerships tend to be built on trust and respect, often take longer to establish, but are essential for success.

Dr Keith Thomson, who has vast experience working for Mercy Ships in West Africa and organising anaesthesia and midwifery conferences throughout Africa, then discussed the benefits of running shorter-term educational initiatives. These typically involve identifying the educational needs in a country and planning a 3-day conference around them. UK trainees and consultants deliver teaching sessions and attendees travel from surrounding hospitals. Some come from particularly far-flung hospitals in order to receive training. We were also privileged to be joined by Dr Jo James from the Royal College of Anaesthetists who gave an extremely informative overview on how developing world anaesthesia might fit into training – an invaluable session for trainees.

Prior to lunch Dr Ada Ejiofor gave the most energetic presentation of the day on Diaspora support which was particularly well received. Throughout the day, a friendly festive atmosphere was cultivated and delegates had ample opportunity to chat to speakers and to each other during breaks and over a civilised lunch. Dr Ed Fitzgerald from Lifebox also travelled down from London to talk to people about the Lifebox pulse oximetry donation programme which has been successfully incorporated into many of the projects discussed during the conference. In the afternoon, we heard from Dr Ollie Ross who discussed log frame analysis and highlighted the benefits of logical project planning based on his extensive experience working on training nurse anaesthetists in Nepal. The group was then divided and three practical sessions ran simultaneously. These included the use of anaesthetic equipment designed for the developing world, Glostavent and UAM anaesthetic machines and ketamine anaesthesia. One of these sessions was purely to allow discussion regarding the opportunities available at different levels of training and to allow the exchange of ideas and information. As a grand finale to the day, we were honoured to have the opportunity to listen to Dr Rola Hallam presenting her awe-inspiring work with Hand in Hand for Syria which incorporated graphic material from her Panorama documentary on the Syrian conflict.

“Great for networking and ideas on how to put projects together. Superb conference and very good value”

As an organising committee we were impressed by the overwhelming enthusiasm of delegates and speakers alike. We reflected that there may not have been support for hosting a conference such as this even five years ago, and are excited by the prospect of making it an annual event. We would like to extend our thanks and gratitude to the World Anaesthesia Society for their generous support for the running of this conference and to all those who contributed to making the conference such a success.
Critical Care can be defined as all care given to patients with serious and reversible disease. High-income countries can afford resource-intensive and sophisticated critical care but this is not possible in low-income countries. So is critical care needed or feasible in such settings?

The burden of critical illness is especially high in low-income countries. Over 90% of global maternal deaths, child deaths, deaths from sepsis and deaths from trauma are in these countries. 50% of child deaths in hospitals occur within 24 hours of arriving at the hospital. It has been seen that as many as one in four of medical admissions is critically ill.

Critical Care need not be expensive or difficult. Cheap treatments such as adequate fluid resuscitation to children with diarrhoea and intravenous dextrose for hypoglycaemia can be life saving. Emergency triage and treatment for children in a hospital in Malawi costs only US$1.75 per patient and has reduced hospital mortality by 50%. Oxygen therapy can cost less than two dollars per day.

Unfortunately, critical care in low-income countries is often poor. Hospitals lack processes for prioritising and caring for critically unwell patients. Life saving drugs and equipment are not immediately available. Staff training in the management of critical illness is uncommon, and Intensive Care Units are rare. Medical guidelines often lack relevance or are impossible to implement in resource-poor settings. Critical care has not been promoted as it cuts across traditional disciplines and lacks policy advocates.

This article describes realistic critical care services for a district hospital

1. Karolinska University Hospital, Dept. of Anaesthesia, Intensive Care & Surgical Services

Critical Care in low-income countries

Tim Baker MB ChB1,2
in a low-income country, focusing on the hospital structure, routines and basic clinical management.

THE HOSPITAL STRUCTURE
Critically ill patients arriving at hospital require quick identification and treatment. Formal triage systems at the entrance to hospital should divide the patients into urgent and routine cases and direct the urgent cases to a resuscitation room or emergency department. This is both clinically and cost effective, as resources can be focused on those who have the most pressing clinical needs.

The emergency department should be adjacent to the hospital entrance and triage area. There should be resuscitation bays or rooms for immediate treatments, with emergency drugs and equipment always at hand. Medical staff should be present or on-call 24 hours-a-day and, if possible, senior staff should be on-call for complicated or serious cases. Treatment rooms should be spacious to allow a team of several health professionals to work efficiently together and communication between practitioners should be prioritised; a quiet place with good access to radiology, laboratory and surgical provision is ideal.

Within the hospital, at least 1-2% of beds should be assigned for the critically ill. This means at least 4-8 beds in a 400-bed hospital. An Intensive Care Unit (ICU) can concentrate expertise and resources. Staff should receive directed training in managing the critically ill, effective routines can be set up and emergency drugs and equipment can be kept near the patients who need them most. The risk that an ICU could divert already scarce resources from the rest of the hospital can be minimised by ensuring that it provides treatments and facilities consistent with the rest of the healthcare system.

Where a separate ICU is not practicable, designating beds on a general ward as 'critical care' or 'high dependency' beds improves medical oversight. Where resources allow, hospitals can introduce a "Rapid Response Team". This is a team of hospital staff trained in critical care who may be summoned to support the care of seriously ill patients on a general ward.

IDENTIFYING THE RIGHT PATIENTS
Formal triage systems are ubiquitous in hospitals in many parts of the world but in low-income countries triage is often absent or of poor quality. Queue based systems are common and can result in delays for the critically ill patients and less rational prioritisation of the hospital’s resources.

Every hospital should have a formal triage system for new patients. Triage should precede registration processes and payment for services. As triage has the potential to save lives and reduce costs, it should be a prioritised activity, with senior staff appointed where possible.

Triage must be quick and simple. Effective triage systems involve vital signs, utilising derangements in physiological parameters as indicators of critical illness. Identification of critical illness also takes place after admission to hospital. Such "ward-based triage" involves the regular assessment of clinical status in order to detect the deteriorating inpatient.
Postoperative patients can leave theatre in a critical state due to the effects of the surgery and the anaesthetic. Many of these patients have a good prognosis if they are identified early and receive adequate critical care for a limited period of time. Indeed, many ICUs have begun as postoperative units.

The ICU should have well defined admission criteria. These criteria depend on the facilities and expertise available but should be based on the hospital’s triage systems. The goal is to admit the patients to the ICU who could most benefit from the critical care, i.e. those who have life threatening conditions and have a reasonable chance of recovery. Equally important are discharge criteria. Those patients who have sufficiently improved and no longer require critical care, or those who are judged to be too severely ill to benefit from the available care should be discharged from the ICU to free up beds for other critically ill patients.

SIMPLE ROUTINES & CLINICAL MANAGEMENT
Although hard evidence of effective critical care interventions is lacking, it is clear that earlier treatment, more intensive monitoring and more goal-based systems have been beneficial. Increasing staff to patient ratios improves all of these and may be the single most important factor for successful critical care. Regular physiological observations can identify deterioration early and monitor the success of interventions. Frequent assessment by medical staff is similarly important – twice daily ward-rounds of critically unwell patients and 24 hour access to a clinician should be routine.

The most effective interventions for the critically unwell patient are simple, but need to be carried out quickly. Emergency drugs and equipment such as diazepam, oro-pharyngeal airways, oxygen delivery equipment, intravenous fluids and giving sets should be kept on the ward and always be available. A list should be kept on the ward and daily stocktaking and equipment testing by designated clinical staff should be carried out. Critically ill patients should not be required to pay before they have access to life-saving therapies and relatives and staff should not need to leave the ward to find or purchase the treatments. A recent survey from Tanzania found that hospitals have good supplies of basic drugs and disposable equipment, but that the routines for their storage and availability for use in emergencies were lacking. Pulse oximetry, such as that promoted by Lifebox, is a valuable tool for the identification and management of the critically ill.

The patient’s observations, received treatments and fluid balances should be regularly documented. This enables early recognition of the deteriorating patient, monitors the success of the care and reduces errors in drugs prescription and dispensing. Documentation can also be useful for quality control and audit. Basic hygiene routines
including hand washing before and after patient contact and using disposable gloves should be rigorously followed to reduce nosocomial infections.

Effective clinical management of the critically ill patient involves concentrating on the common and easily preventable causes of mortality. These are often described with the ‘ABCDE’ acronym. The clinician should begin by assessing the Airway, treat any abnormality found, then successively assess and treat the Breathing, Circulation and Disability (neurological dysfunction) before moving on to Everything Else. This approach is used in Emergency and Critical Care training all over the world and has been found to be effective and easy to remember, even in stressful circumstances.

**IMPROVING QUALITY OF CARE**
Staff should be adequately trained in caring for critically ill patients. Training includes both ‘pre-service’ in colleges and universities, and ‘in-service’ through courses and seminars. Evaluation and feedback from external senior critical care specialists can be valuable. National and local guidelines and standards for managing the critically ill are rare and should be developed to encourage improved care.

All hospitals should have a system of audit for evaluating the care they are providing. Additionally, specific case discussion as part of mortality and morbidity meetings (M and M) is useful. This evaluates the strengths and weaknesses in the medical care of fatal cases. It is fundamental to their success that blame attribution is not pursued, but sensitive discussions may identify specific areas for improvement.

**ETHICAL ISSUES**
Critical care brings with it several specific ethical issues. These issues are extremely important and health staff should have an understanding of them. Critically ill patients and their relatives should be treated sensitively and with respect. Decisions are frequently made that have a huge impact on the patients’ lives and sometimes the patient is incompetent to make decisions themselves due to their illness.

End-of-life care has great social, cultural and religious as well as medical importance. Continued active treatment of a patient, who will not benefit from it, should be avoided. Palliative care services and adequate pain-relief can improve support for patients and their carers at the end of life. The point at which treatment becomes palliative depends on the wishes of the patient, informed by senior medical opinion and may be affected by cultural norms.

**CONCLUSION**
Yes, critical care is both needed and feasible in low-income countries! Strong advocacy is required to move critical care up the policy agenda. Training in critical care is crucial, and should be aimed at both newly trained and professionally established healthcare workers. While there remain so few critical care physicians, other clinicians must be trained in providing effective care to critically unwell patients. Increasingly, hospitals in less developed settings are developing links with those from high income countries. This has the potential to improve training, and act as a catalyst for improvement in care. However, care should be taken that such initiatives are truly collaborative, and well grounded within the existing hospital systems. Research is required to give a better understanding of critical care in low-income settings, to evaluate the clinical effectiveness of critical care interventions and to establish their cost effectiveness. The WHO recently began promoting surgical services as a way to reduce mortality and morbidity. Critical Care should be next in line.

**REFERENCES**
The provision of critical care in low resource settings is challenging. Reviews of the subject have been compiled and draw out a number of difficulties including a lack of the requisite evidence, workforce, materials, and governance. These are common themes; a recent review of barriers to anaesthetic safety in low-resource settings illustrates similar problems.

During 2011-2012 I spent a year out of programme working with Voluntary Service Overseas (www.vso.org.uk) in Ethiopia, volunteering as an anaesthetist in a busy public hospital in Addis Ababa. VSO offer long-term placements, which are based around the concept of skill sharing and sustainable development, rather than filling existing gaps in the medical workforce. My aim during my time in Ethiopia was to find ways to improve the anaesthetic care in the hospital, one aspect of which was the development of recovery and post-surgical high-dependency services. This was accomplished by multidisciplinary working between VSO volunteers, nursing, medical and surgical staff, with input from local anaesthetic colleagues.

**EVIDENCE**

It is easy for the volunteer in a low-resource setting to believe that the ideal end goal of their work is to establish a carbon copy of a high-resource centre. However it is important to consider whether any of those interventions planned actually represents a potential source of harm. Ethical considerations are complex and culturally dependent. Should cardiopulmonary resuscitation be taught in a setting with no possibility of ventilation or inotropic support? What level of neurological disability is acceptable in a country without an extensive welfare state and with no access to rehabilitation services? There is likely to be
very little evidence to guide these decisions, and local ethical review may not be available.

More practically, there is a lack of evidence to support which patients should be admitted to a high-dependency area. This remains a challenge in almost all settings with critical care scoring systems constantly being revised. How these scoring systems should be applied in low resource settings with complex pathology, limited investigations and limited interventions is even more opaque. Should a patient be admitted because they are more sick, or because they are more readily treatable? Capacity to manage patients is very limited; our unit consisted of a total of ten beds, four of which were for general use and six of which were post-surgical patients only. We had no ventilator facilities, no inotropic support, no haemofiltration, and no invasive monitoring. Nevertheless, upon launching the unit we were immediately overwhelmed with patients suffering diabetic ketoacidosis, cardiac failure and sepsis, in addition to our post-surgical population. Systems of triage and rapid assessment are often underdeveloped and changing this can be a huge undertaking in its own right.

**WORKFORCE**

The provision of an appropriately skilled workforce is one of the key limitations to providing critical care in any setting. Our workforce consisted largely of those nurses running the existing recovery area, with the addition of a number of newly recruited nurses and some nursing students. This was an enthusiastic cadre albeit with a very variable level of basic training.

Medical support for the high dependency unit (HDU) came largely from physicians and surgeons, with minimal input form anaesthetic staff. Anaesthesia in Ethiopia is almost exclusively provided by non-physician anaesthetists who do not have a tradition of engagement in critical care, and our hospital had no physician anaesthetist support. Junior doctors were also deputed to help cover the HDU, although this was part of their general duties and no dedicated medical staff were able to be permanently resident on the unit.

A large amount of training was done with the nursing staff, carried out via morning teaching sessions on the unit, using practical instruction where possible. Key skills which needed improving were the management of airways in obtunded patients, the routine use of pulse oximetry, and the appropriate use of fluid therapy. Much teaching was based around the ‘Chain of Prevention’ detailed in the Immediate Life Support Guidelines kindly made freely available by the Resuscitation Council UK (RCUK). It was felt that this provided a level of care suitable to the services available, with an emphasis on the early recognition and treatment of the deteriorating patient, rather than inappropriate or inaccessible advanced life support.

The education programme itself presented many unexpected challenges. As an example, while the nursing workforce were quick to learn concepts and practical skills with respect to patient care, we encountered an unfamiliarity with recording vital signs data in the graphical format common to many charts – this took far more encouragement and coaching than basic airway skills or the use of pulse oximetry. An additional factor to manage was the popularity of the teaching. Nurses form many other areas of the hospital were keen to attend and it became difficult to limit numbers to recovery and high-dependency staff.

**MATERIALS**

After the workforce, the next
most crucial ingredient for an HDU is physical space. We spent months working with the Medical Director and the Head of Nursing to identify a suitable space within the hospital, which was near to the operating theatres, large enough to accommodate our patients and had running water. We used a model whereby the HDU and the recovery rooms were opposite each other across a corridor to allow sharing of staff and equipment where necessary.

Planning the equipment needed to establish an HDU is complex although excellent guidance is available. The majority of equipment was found from around the hospital – much of it not in regular use - and relocated to the HDU with the approval of the Medical Director.

Lifebox© pulse oximeters were obtained through charitable donation in sufficient numbers to equip each bed space with its own device.

Resource limitations were significant and even basic drugs difficult to obtain reliably. While both rooms began the project with functioning water supplies, the basin in one of the rooms became non-functional during the establishment of the HDU. Studies of Ethiopian hospitals show varying limitations in resources but a lack of reliable water and electricity is commonplace. We were fortunate to have a reliable supply of oxygen by cylinder, along with sufficient quantities of tubing and facemasks, although this is by no means common to many settings where oxygen concentrators may provide the only source of enriched oxygen – another potential pitfall where power is intermittent.

GOVERNANCE
Good governance of medical resources is fundamental to the sustainability of services. Procurement and maintenance of pharmacy and equipment is essential, as is human resource management to train and retain staff.

Low resource settings may have many challenges to effective governance; engrained hierarchies, scant funding, a lack of staff morale, and the draw of the private sector all contribute to difficulties in managing critical care areas. Equipment is often seen as highly valuable and very easy to steal, with the result that much important equipment is often locked away. Striking a balance between security and access can be very difficult and our experience was that key personnel needed to be supported and encouraged to allow equipment to be widely accessible to nursing staff. There was a widespread concern that the loss of any equipment would be seen as the responsibility of the nurses involved and lead to accusations of theft.

GOVERNANCE
Good governance of medical resources is fundamental to the sustainability of services. Procurement and maintenance of pharmacy and equipment is essential, as is human resource management to train and retain staff.

Low resource settings may have many challenges to effective governance; engrained hierarchies, scant funding, a lack of staff morale, and the draw of the private sector all contribute to difficulties in managing critical care areas. Equipment is often seen as highly valuable and very easy to steal, with the result that much important equipment is often locked away. Striking a balance between security and access can be very difficult and our experience was that key personnel needed to be supported and encouraged to allow equipment to be widely accessible to nursing staff. There was a widespread concern that the loss of any equipment would be seen as the responsibility of the nurses involved and lead to accusations of theft.

The nature of the teams involved in the care of our high dependency patients also challenged the running of the unit. Medical and surgical teams would visit patients and make plans, but few juniors were spare to maintain a constant presence and much was left to the initiative of the nursing staff. In cultures where a strict hierarchy between doctors and nurses persists, it can be very difficult for even experienced and capable nurses to initiate treatment without fear of confrontation with medical colleagues.

REFLECTIONS
The process of trying to establish critical care services in low resource settings requires a number of key elements: an identified need; support from staff and clinical
leaders; an extended period of time to plan, implement and evaluate the service; and ideally an evidence-based approach to ensure the services introduced are appropriate for the local situation. In addition there are issues of human and material resources to overcome. Given this, it might be argued that such time and resources could have a greater impact if placed elsewhere. However, the argument for safe surgery as a fundamental part of health systems development has been made increasingly cogently, as reflected in the 2009 WHO Safe Surgery Saves Lives Campaign10, and providing a degree of high-dependency care can be argued to be a basic tenet of safe surgical practice. In addition, there are a number of otherwise fatal medical conditions whose management may be greatly improved by simple high-dependency care with even very limited resources; young fit people dying of diabetic ketoacidosis for want of close observation, regular insulin and fluids is very hard to justify even in the poorest of settings.

An increasing body of literature is being developed to help those interested in this area, and the co-ordination of experience form around the world allows lessons learnt in one setting to be readily disseminated. The next step is to support local staff to develop such services without input from visiting volunteers, drawing on the same international support structures and evidence base.

ACKNOWLEDGEMENTS
The author was funded by VSO and supported by Yekatit 12 Hospital and the Addis Ababa City Administration Health Bureau for the period of the placement. Support was provided by Lifebox® Foundation, the RCUK, and the AAGBI who provided books and reference materials free of charge through the Teaching Aids at Low Cost (TALC) scheme. A number of international colleagues kindly provided advice and support via email. Funding for pulse oximeters was generously provided by University College London Hospitals Charitable Foundation and the Rotary Club of Market Drayton, UK.

References
Developing World Anaesthesia

An intensive one day course covering the essentials of anaesthetic practice for developing countries and resource poor environments.

- Ketamine
- Draw-over anaesthesia
- Equipment (hands-on sessions)
- Obstetrics, Paediatrics & Trauma
- Organising your time away and making it count
- Experience from the field

☑ April 2015 @ Bristol Education Centre
☑ Experienced faculty
☑ 120.00 including lunch (20.00 early booking discount before 2015)
☑ contact: dwasouthwest@gmail.com
☑ www.dwasouthwest.org for further details
Health care has been globalised by increased movement of people across the world due to open borders, economic migration, community displacement by unrest and ease of travel, well illustrated by the rapid spread of infectious diseases such as avian and swine flu. Increasingly, the curricula of many developed countries, including the UK, emphasise a technology-oriented approach to practice, particularly in a specialty such as anaesthesia, with an attendant loss of emphasis on ‘basic’ skill acquisition. The new context of global anaesthesia may require a reversion to practice once considered obsolete, contrary to the way anaesthetists are currently trained. The result is that practitioners who are trained in developed countries face the risk of being ill-prepared for the requirements of resource-limited environments, and what were once considered basic anaesthetic skills have become paradoxically complex.

There is little agreement on the core competencies required for global healthcare, but nonetheless the most recent iteration of the Royal College of Anaesthetists’ curriculum for a postgraduate medical training is to reflect the healthcare needs of the society within which the training programme is situated.

UK anaesthetic trainees’ perspectives on preparedness for global anaesthesia practice

J.A. Kinnear, P. Gill

Health care has been globalised by increased movement of people across the world due to open borders, economic migration, community displacement by unrest and ease of travel, well illustrated by the rapid spread of infectious diseases such as avian and swine flu. Increasingly, the curricula of many developed countries, including the UK, emphasise a technology-oriented approach to practice, particularly in a specialty such as anaesthesia, with an attendant loss of emphasis on ‘basic’ skill acquisition. The new context of global anaesthesia may require a reversion to practice once considered obsolete, contrary to the way anaesthetists are currently trained. The result is that practitioners who are trained in developed countries face the risk of being ill-prepared for the requirements of resource-limited environments, and what were once considered basic anaesthetic skills have become paradoxically complex.

There is little agreement on the core competencies required for global healthcare, but nonetheless the most recent iteration of the Royal College of Anaesthetists’ curriculum for a
certificate of completion of training (CCT) in anaesthetics makes a clear statement of support for trainees wishing to broaden their experience by working in resource-poor settings. It also describes a syllabus for learning in these environments, even setting out sensible advice in terms of educational supervision during the period of out of programme training (OOPT). However, there may be a disconnection between the aspirations of the curriculum on the one hand, and the learning that is available for trainees wishing to undertake such OOPTs on the other.

The aim of this study was to gauge the experience of current UK anaesthetic trainees in practicing in resource-poor environments.

METHODS
A local Institutional Review Board deemed ethics approval unnecessary for this study. An electronic survey was created using SurveyMonkey®, which used a combination of open, descriptive, and closed questions with rating scales. An invitation to participate in the survey was distributed to trainees via several sources, which included the programme directors of twenty-nine Schools of Anaesthesia in the UK, and all College Tutors via the Royal College of Anaesthetists.

RESULTS
There were 462 trainees who completed the survey, of which 339 (75%) had graduated from a UK medical school, with 114 (25%) graduating from schools outside the UK. The non-UK graduates came most frequently from India (75), South Africa (7), Pakistan (3), and Egypt (3), but a total of 24 countries were represented (figure 1).

One hundred and thirty-one (29%) respondents indicated that they had worked in a resource-poor setting previously, but most had not (327/71%). The countries cited as representing the resource-poor anaesthetic environments were diverse, but included India (58) and rural South Africa (14) as the most common, with other regions including Africa; Asia and the Middle East; Polynesia and Antarctica (figure 2).

The majority of respondents (405/90%) indicated that working in a resource-poor setting would definitely or possibly be beneficial to training in anaesthesia, with a minority (48/10%) suggesting it would not (figure 3).

When asked what the benefits might be (from a predetermined list of answers), these included improved service for resource-poor countries (216/54%); learning to cope with minimal support (357/89%); improved application of the basic principles of anaesthesia (350/87%) and ‘other’ reasons (29/7%). Most respondents indicated that their current training programme did not offer training opportunities for work in a resource-poor environment (376/82%), with 20 (4%) saying they did, and the rest (61/13%) being uncertain.

Most respondents indicated that they intended to, or would like to, work in a resource-poor environment (311/68%), with 145 (32%) saying they would not. Sixty-one (14%) felt adequately prepared, while 232 (52%) did not (figure 4).

When asked whether training to work in resource-poor environments should be a core competency of training, most (248/54%) thought it should not be, with the main reasons given being an already full curriculum with limited training time available, and lack of relevance to UK practice. Most agreed that it should be offered as an optional competency at a higher level of training. However, if a training...
programme was available in a resource-poor environment, then 180 (40%) stated that they would definitely participate, and only 13 (3%) were definitely opposed. Only 26 (6%) respondents were aware of the Royal College of Anaesthetists’ current position on training in resource-poor environments.

**DISCUSSION**

It is notable that one quarter of respondents completed their undergraduate studies outside the UK, emphasising the global nature of the healthcare workforce in the NHS. Historically, the UK has long benefited from graduates derived from poor countries and has been a net importer of trainees, contributing to the ‘brain drain’ of underdeveloped countries. Although training placements of UK graduates overseas do not present a solution to medical staff shortages in underdeveloped countries, it may nonetheless make a significant contribution to service delivery. More important is the facilitation of knowledge and skill transfer within the specialty with the promotion of a scientific and evidence-based approach to practice overseas, which fosters growth and development of the specialty.
It is important to acknowledge that learning is bidirectional since working overseas also results in training and developmental opportunities for UK trainees. The benefits are not limited to improved knowledge and skills, but include improved cross-cultural awareness, resourcefulness, adaptability, enhanced communication skills, better appreciation and use of resources, improved management and teaching skills, and improved motivation for the specialty. This opinion is supported by most respondents in this survey who believe that working in the challenging environment of a resource-poor setting would be beneficial to their training in anaesthesia.

While many trainees aspire to work in underdeveloped countries, and over a quarter of the respondents already had, few feel adequately prepared for the challenge. This is unsurprising since the majority of UK postgraduate programmes do not offer specific training to work in resource-poor environments, and the few that do, offer it via ad hoc links with overseas departments. Otherwise training has to be obtained through independent courses or by self-arranged out of programme placements. Naturally, directors of training programmes are concerned with the efficient running of their own rotations and so may be reluctant to release their trainees for out of programme placements, but the Crisp Report urges educational bodies to value overseas training and to facilitate such training rather than discourage it. Of note, however, is the report’s appeal for trainees not to add to the burden of the host country if they do go, which does imply a certain competence before they get there. It seems a paradox that a highly trained anaesthetist from the UK should become ‘incompetent’ in a resource-poor setting, but anaesthetic techniques that were once considered to be the norm are now extraordinary to anaesthetists with little experience of the drugs and equipment that are still commonplace in underdeveloped countries, such as halothane, drawover vaporisers and oxygen concentrators. Also, the competencies required in challenging settings include non-technical skills, turning the ‘basic’ skills into complex ones.

Even though over 80% of respondents indicated that they would consider training in a resource-poor setting, most nonetheless felt that it should not be a core competency. The reason is that many trainees are daunted by the existing curricular demands and the potential for further overload. Although the Royal College of Anaesthetists visibly supports training placements overseas and has produced a curriculum that contains a section on anaesthesia in developing countries, few trainees were aware of this fact, and the desire to promote global awareness and competence had not filtered through to the training programmes.

Whilst the results of this study are thought provoking, a recognised limitation is that the respondents may not represent a true cross section of anaesthetic trainees in the UK, and they arguably over-represent the population of trainees who have a particular interest in global anaesthesia. Also, ‘resource-poor’ was not defined, and it was left to the respondents to interpret what this meant for them. Nonetheless, our findings suggest that global anaesthesia has much to offer both host and supporting country trainees, but has yet to be developed to its full potential.

REFERENCES
Zambia is classified as a low to middle income country, located in Sub-Saharan Africa with a population of 14 million people. The capital city, Lusaka, is home to the University Teaching Hospital (UTH), which is the country’s leading referral hospital. The UTH has a bed capacity of 1900, but patient capacity far outstrips this resulting in “chair beds”, “floor beds” and even bed sharing. The average life expectancy of a Zambian is 51 years with a high infant and maternal mortality rate.

Prior to 2011, Zambia did not have a postgraduate anaesthetic training program. There are only 25 anaesthetic consultants in the country, and as a result the anaesthesia service is largely covered by non-physician anaesthetists. These practitioners are called Anaesthetic Clinical Officers, and receive only 2 years of training. In 2011, an International health care partnership between the UK and Zambia was established to train physician anaesthetists, and the first cohort of 7 postgraduate physicians was enrolled in the MMed Anaesthesia program. The faculty for this endeavour came largely from the UK; anaesthetic consultants visiting for periods of 2-3 weeks at a time to deliver intensive teaching and offer clinical support. However, between visits there were gaps in clinical support, and feedback from the MMed registrars (MMeds) reflected a desire for continuity. Consequently, the Zambia Anaesthesia Development Project (ZADP) was born.

The ZADP was established through the efforts of a UK registrar, Dr Carin Dear and was based on a mutually beneficial International health care partnership between the AAGBI and UTH. Funding came from the Department for International Development (DFID), via a competitive Paired International Partnership (PIP) grant awarded by the Tropical Health and
Education Trust (THET). The ZADP would benefit the host country by supporting and providing continuity for the newly established MMEd anaesthesia training program, as well reinforcing the role of Anaesthesia as an important specialty and department at the UTH. In return, this would provide a unique 6 month training experience for a UK registrar. The ZADP registrar would be a role model for the new anaesthetic MMeds, and deliver clinical support and teaching to the MMeds and clinical officers. They would also gain leadership and management experience, getting involved in promoting the identity of a new department, developing interdepartmental relationships, establishing morbidity and mortality meetings, journal club, audit, research, and all aspects of clinical governance. In summary, they would be given the chance to develop as a clinician, a manager and a leader in a resource poor environment.

Since it began in August 2012, the ZADP has proved to be a popular and effective presence in Zambian Anaesthetics. Now under the directorship of Dr Dylan Bould and his UK team of Anaesthetic Registrars, the ZADP has grown into a network of support and continuity for the fledgling Zambian Anaesthetic community. Each ZADP registrar is selected by competitive interview, and fully briefed before departure on expectations and project goals. On arrival in Lusaka they receive an in-hospital induction and introduction to the anaesthetic department and staff. One and a half years, and 3 consecutive 6 month registrar postings into the programme, we reflect back on the challenges and rewards of the project.

CHALLENGES
Initially the task was somewhat daunting, not least because of the size and complexity of the issues within the Department of Anaesthesia in UTH, but also because some of the solutions lay within other departments. Furthermore, the hierarchical and highly bureaucratic system that still exists at the UTH created unfamiliar obstacles to a UK trained anaesthetist. For example, anaesthesia in Zambia has only recently become a postgraduate specialty; it was formerly regarded as a technical support service rather than an equally weighted specialist discipline. This embedded belief has made the Anaesthesia department feel inferior and often behave so, with no in-country solution to change attitudes. The ZADP registrar aims to change these attitudes, as a role model of modern, professional behaviour. From day one of the project, the aspirational list of goals grew: improving availability of resources, increasing clinical governance, improving management and leadership, helping to set up better systems and processes, engendering better communication, and initiating a facility for data collection - all of these issues appeared to be impacting negatively on patient care.

SUCCESSES
Establishing relationships with respect and trust within the hospital was the first important element of the ZADP journey. The difficulty of this cannot be underestimated in a continent receiving a conveyor belt of well-meaning but often misdirected, unsustainable or unwanted support. Continuity with each successive ZADP registrar and local engagement has been key in prioritising goals and ensuring sustainability. In addition to providing clinical support to the Zambian registrars and clinical officers, ZADP has established regular teaching for the Anaesthetic Clinical Officers and initiated a research project to quantify the incidence of perioperative mortality and causality (which has gained in-country ethical approval and been awarded a research grant by the AAGBI). Having in-house knowledge of how to approach research in Zambia, the ZADP registrar is ideally suited to assist MMeds with their compulsory research dissertations.

The Anaesthetic department now has established monthly journal clubs, morbidity and mortality meetings, and departmental meetings. The ZADP registrars have carried out audits of recovery and surgical safety - audits were an unfamiliar concept in the UTH -, conducted a pulse oximetry needs assessment, and organised and delivered formal WHO Safe Surgery and Lifebox teaching. In addition,
6-12 month 00PT
Zambia Anaesthesia Development Program

The posts
An opportunity for 2 senior anaesthetic registrars to join a cross-cultural training experience which aims to promote anaesthetic development in Zambia. This exciting project, in its 3rd successful year, supports a newly established Master of Medicine Anaesthesia training program, the only such program in the country. We anticipate appointing 2 trainees. One post has a focus on education including simulation-based teaching, educational resource development, and we would support the enrollment in a distance learning educational diploma or masters degree. The other post has a focus on leadership/patient safety including supporting systems changes to improve the quality of perioperative care in Zambia. Both posts have the opportunity for involvement in research.

Support provided
Induction and introduction to the hospital including handover from previous ZADP registrar.

Advice regarding visa application, registration with Zambian Medical Board and grant application
Continued support from UK based ZADP team and local faculty.

Application:
Please send:
- In no more than 300 words: why you would like this posting and what you could contribute.
- Curriculum Vitae

To the following address: zadproject@hotmail.com
Please email the same address for any informal inquiries about the post.

Interviews
Interviews will take place at the Royal College of Anaesthetists in London but provision may be made for teleconferenced interviews for applicants out of the UK.
ZADP, with much local consult, has developed locally relevant department protocols including a major haemorrhage protocol, a pre-operative investigation checklist and a difficult airway protocol.

Engaging in management issues and starting to build a stronger voice for the department of anaesthesia was made possible by collaborating with the International Global Health Initiative Fellow (a 6 month visiting UK NHS manager), who worked closely with the Head of the Anaesthesia Department at UTH.

Two of the ZADP registrars have taken the opportunity to make return visits to the UTH and have been able to reflect upon progress at the UTH, and witness the significant changes brought about thanks to the work of the ZADP – positive feedback on an individual level which helps motivate their ongoing work in the project. They are also well aware that the progress achieved so far has required huge effort and perseverance. Instilling change at any level within the UTH has been a difficult process. There is much well-established yet outdated practice from which there has been stubborn resistance to change. Inefficiencies in theatre planning, drug procurement and staffing continue to be a problem, despite the availability of cost-effective solutions. Cultural differences in what is deemed to be acceptable professional practice continues to be debated, with inconsistencies in expectation, and all of these issues have been sources of frustration for both the ZADP and the host faculty.

This project so far has been a hugely valuable experience for the registrars involved, and brought about positive changes for the UTH. Aside from the ZADP responsibilities, the UK registrars have gained fantastic experience in developing world practice, and gained insight and experience in anaesthesia and surgery in a resource and management poor environment. They have learned to adapt and develop skills appropriate to the equipment, drugs and services available, and dealt with unique problems in communication and diplomacy. On going teaching opportunities have allowed them to refine their methods, and to obtain feedback on how the advice and teaching is received by the anaesthetic MMed registrars, Clinical Officers, nursing staff, midwives, and the wider hospital community. Research, audit and quality improvement opportunities have also been excellent, bringing gains to both the hospital and the CVs of the registrars involved.

PLANS FOR THE FUTURE
The ultimate goal for the ZADP is to continue the International healthcare partnership as long as it remains mutually beneficial. The momentum of the project has continued to gather pace and received good feedback. A risk with any project such as this is that it becomes embedded in the system and thus relied upon as a crucial component on the assumption that it will always be present. Aware of this, the ZADP has been awarded fixed term funding for 2 years. Nevertheless the hope is to gain further funding for at least another 2 years, the aim continuing to be that the MMed Anaesthesia programme in Zambia will deliver anaesthetists who are trained, motivated, and no longer in need of the same level of external support while at the same time providing a unique and diverse training experience for a UK registrar.

REFERENCES
1. Worldbank. data.worldbank.org
3. TIME PUBLISHED - Thursday, October 13, 2011
7. Tropical Health and Education Trust. www.thet.org
Looking for a project for an Out Of Program Training or Experience (OOPT/E)? Wanting to commit to an annual volunteering project? Considering dedicating a sabbatical period to a Non Governmental Organisation (NGO)? Would you like to work in anaesthesia in a less developed country, one suffering from the consequences of war or natural disaster? There are a vast number of possibilities to look into. Short-term or long-term; being part of an emergency response team, a large long-established or a small specifically-targeted NGO; setting up a two-week surgical camp; working in a district governmental hospital, or a mission hospital 4 days travel from any sustained facility: the list is long, and the possibilities endless.

Once the decision of where to go has been made, the real preparation starts. Reading into the cultural and political history and the demographics of the country, the town, the hospital; talking to people who are working there or have done so in the past, or have worked in similar circumstances. It is all common sense, and an incredibly important start, but from what I have heard, in these working environments rather than 'see one, do one, teach one’ it is straight into ‘do’, multiple times!

That is where the course ‘Anaesthesia in Developing Countries’ (ADC), established in the early 80’s by the Anaesthetic Division of the Oxford-based Nuffield Department of Clinical Neurosciences, comes in very useful; to get as prepared as possible to face the anaesthetic job in the broadest sense, in often very unfamiliar surroundings.

Last November, I was lucky enough to be one of the 17 delegates taking part in the five day course in Kampala, Uganda. Of course, I decided it was essential to have a 10-day pre-course acclimatization period to enjoy the beauties of the ‘pearl of Africa’, where green exists in a colour swatch much more extensive than that provided by any
paint company. The people were incredibly friendly and welcoming, and the ‘meet and greets’ with the wildlife very special.

The course took place at the Makindye Country Club, which offered a good range of facilities for any free time, in a very tranquil and comfortable setting. In that way it added to the contrasts one experiences in this type of country. Getting out into the street almost felt like stepping out of a soundproofed environment (although the daily, beautifully exotic singing bird chorus from 6-6.30 am made up for that completely!) into a huge Noah’s Ark-like sharing of the public spaces.

The course officially started on the Monday, but most of the delegates from eight different countries had arrived by Sunday afternoon, and attended the atmospherically and climatologically warm welcome drinks, kindly organised by Dr. Sarah Hodges, who has been living in Uganda with her family for many years. She is part of the faculty and plays a big role in the coordination and administration of the course in Kampala. Moreover, she adds tremendous value to the course through her character, knowledge and experience, as a ‘bridging person’ between the two different worlds.

The course consisted of different lectures and two visits to local hospitals. The topics covered in the lectures were diverse, and included resources (oxygen, ketamine, halothane, electricity and gas safety), physical and psychological well-being, airway management, and ‘potty training’ (paediatrics, obstetrics and trauma); the mainstay of cases likely to be encountered. Feeling comfortable dealing with these is invaluable when wanting to work in developing countries. The members of the faculty (anaesthetists, an emergency medicine specialist, an engineer) had a vast experience of years abroad in very diverse settings. This added hugely to the theory on the topics, and was further explored in the workshops and case based discussions in small groups. There were also the travelogues; the perfect way to end an intensive course day, making many of us want to go on a mission straight away. Exchanging experiences and getting to know about so many different possible missions and opportunities was a great and invaluable part of the course. This was felt by the delegates, but also noted by the faculty members, as about half of the group had experience ‘in the field’ to varying degrees. Several people commented that it would have been great if they could have attended this course prior to their mission, as although the experience gained by ‘just getting on with it’ had been incredible, it had not always been without ‘scars’. As the situations faced and their ‘solutions’ were shared within the group, much was added to the content of the course. In that way, the outcome of the course really was a combined effect of the scheduled programme, the input of the faculty, and the past experiences of the group members discussed during a session, or over a drink at the bar before dinner.

Most of the time, the programme was as well-balanced as a musical composition, with pianissimos (lectures) and fortissimos (hands-on circuit building, a workshop on maintenance and cleaning of equipment, scenario discussions). For me and for many of the participants, the course ‘cake’ had four ‘cherries’: the most outstanding parts of the programme were the visits to the hospitals, the workshop on building and servicing drawover systems, the lecture about aid models and ethics, and the panel-discussion with Dr. Emmanuai Ayebale and Dr. Mary Nabukenua, two anaesthetists from Mulago University Hospital. They were both trained through
the World Anaesthesia Society Ugandan Fellowship Programme, supported by the Association of Anaesthetists of Great Britain and Ireland / Global Partners in Anaesthesia and Surgery (AAGBI/GPAS). We met with both doctors during the visit to Mulago hospital, an enormous hospital providing free care for Ugandan citizens. On a yearly basis, the hospital sees 32,000 deliveries of which 24-32 per day are by Caesarean section, divided between two dedicated obstetric theatres. The contrast was huge when we faced a 6 bedded, brand new trauma unit, fully equipped, and decorated with posters from the donating country Israel. Although road traffic accidents happen very frequently, there was only one bed occupied by a level three patient, awaiting a transfer to the Intensive Care Unit. But both units suffer chronically from a common problem: a lack of sufficient and well-trained staff. Throughout the hospital the lack of space, personnel and equipment often prohibits dignified, and sometimes safe care, illustrated by a recent situation where an order of adrenaline did not come through for a period of 3 months. No adrenaline for three months! The same happens with supplies of anaesthetic agents, replacement of a broken pulse oximeter, or failing electricity. At a glance, it very often looked like there were many different pieces of equipment. Sadly, they were part of the ‘equipment graveyard’: kindly donated or happily dispatched to hospitals in developing countries, where they end up in the corner because of a difference in required voltage or a lack of supplies or knowledge to maintain. But at least Mulago Hospital has well-trained anaesthetic physicians. The situation is different, but more representative of much of the country, in the missionary Nsambya hospital, where the anaesthetic service is run by anaesthetic officers, who have been trained on the job, only occasionally by an anaesthetic physician. It seemed to often be a situation of: ‘see one, do it all yourself’. A well-thumbed copy of the Oxford Handbook of Anaesthesia appeared to be the helping hand in case of difficult situations.

The visits to the operating theatres made the course lectures ‘come to life’. Anaesthetic machines ran on halothane or isoflurane, oxygen came from an oxygen concentrator, endotracheal tubes bypassed the bin after a case, to be soaked, washed and re-used multiple times, as did laryngeal masks, guedel airways, suction catheters, etc. The whiteboard on the wall with the WHO checklist written on it came closest to the situation back home.

In summary, it was a very special and well set-up course. I came home with a USB-stick full of the course material: a valuable resource enabling me to read back, read further, and to keep in contact. Although this was of great value, the experience of being there was
more so. Being in a place where I could see this knowledge put into practice, meeting Ugandan colleagues and others from all over the world, exchanging ideas and experiences: these were what made the week special, inspiring and priceless. I can say without doubt that this is a course to recommend if you answered ‘yes’ to any of the questions in the first few sentences of this article.

For more information: http://www.ndcn.ox.ac.uk/courses/anaesthesia-in-developing-countries

I would like to thank Dr Tamara Banerjee for careful pre-reading from a linguistic point of view.
Photographs courtesy of Hilary Edgcombe, Phil Blum, Anna Jancowicz, Sine Wichmann
Anaesthesia in Developing Countries Course

Equipping anaesthetists for work in the developing world

Held in Kampala, Uganda

3rd-7th November 2014

This annual residential five-day course offers the opportunity for anaesthetists from high-income countries to learn about the specific challenges of working in resource-poor environments. It has run for over thirty years in Oxford and Uganda and is particularly recommended for those planning visits to the developing world in short and long-term contexts.

The registration fee (£900 for shared room, £1100 for single) includes accommodation, food and transfers as well as the conference costs. Flights are not included.

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

Further information: www.nda.ox.ac.uk
www.oxfordanaesthesia.org.uk
‘Operation Smile’. A laudable charity, a friendly, fuzzy name and the chance to go abroad... Understandably I jumped at the choice to join them. Many of the articles you’ll read about overseas experience will talk about roughing it in the wilderness and using nothing but a finger on the pulse for monitoring, however Operation Smile is a little different. On the surface it appears, dare I say it ‘easier’, anaesthesia for cleft lip and palate repairs in little ones (6 months to 6 years) with the use of full monitoring, as you would get in the UK and even sevoflurane via a familiar vapouriser!

I’m often questioned by my UK colleagues as to why, if going to work overseas, would I choose to work in such a ‘developed’ set up. ‘Surely you would want to see something different?’ and ‘surely you would want to go out for a little longer?’ tend to be typical comments. An Operation Smile mission is anywhere between 10 days and three weeks long, so much shorter than the required commitment to other similar organisations. My answer to this is that I go out in order to do a good quality job and to provide a service that wouldn’t be provided in the local area. Admittedly this type of surgery is not life or limb saving, but it’s easy to forget that a cleft repair is more than simply a cosmetic procedure. Quite aside from the boost in self esteem and better opportunities in later life that repair of a cleft may afford to a child, there is also the impact on speech development to consider and how a cleft palate can impair feeding and growth. These operations are quick (typically 30 min), yet can hugely affect a child’s future prospects. The whole set up is similar to that required for a paediatric tonsillectomy, though I would not recommend embarking on such a trip without having anaesthetised for a few cleft procedures in the UK first.

Locum Consultant, Royal Free Hospital, London

Operation Smile: The Vietnam Mission
Shilpa Reddy
Operation Smile run anything up to 60 missions per year globally and span countries as diverse as China, Congo, Peru and Vietnam. My journey with them started with the vetting process. I logged on to the website and sent off my references; they usually require anaesthetists to be of consultant level but do also run occasional fellowships for registrars.

Approximately three months down the line, I heard that I’d been ‘credentialled’ and off I went!

Operation Smile have a strong UK arm but the bulk of their funding comes from their US division. Consequently many of those doctors, nurses and auxiliary staff of the mission will be US trained and you’ll find that equipment and drugs brought over will be those typically used in the US system. This mission was to Quang Ngai, Vietnam and was in fact my second mission (my first having been the Democratic Republic of the Congo).

By way of introduction, Quang Ngai is one of the poorer provinces within the country and benefits only minimally from Vietnam’s tourist industry. Vietnam is currently trying to develop a universal healthcare system based closely on the Thai model and though this has proved largely successful in the bigger cities such as Ho Chi Minh and Hanoi, rural areas still lag far behind.

The second stage of my trip involved the follow-up phone call from Rafael, the mission organiser for the UK. His job is to check that you know what to expect and that you have all the equipment you require for the trip. Operation Smile will book your flights and accommodation after you’ve paid a £300 travel fee. You shouldn’t have any costs after this apart from little incidentals and things that you choose to buy yourself.

This particular mission lasted 10 days. The first two days involved a series of activities and dinners to allow the team to get to know each other and to wait for everyone to arrive safely. The next two days involved screening children to assess their suitability for anaesthesia and surgery. Operating took place over the following four days and the final two days were kept free in case there should be any post operative complications and in order to pack up theatre equipment.

During the unpacking phase, a biomedical technician flown in from the US sets up the theatre within an existing local hospital. Anaesthetists will be given an afternoon or so before operating starts to check that they are happy to work within their area. Each anaesthetist is given a stock box of drugs consisting of standard emergency drugs as well as rocuronium, suxamethonium, nalbuphine (a partial opiate agonist), dexamethasone and fentanyl.

After the initial few days relaxing in the sun and getting to know everyone, the screening days can feel quite long (up to 14 hours straight) and a little trying. A few days prior to your arrival, your international mission co-ordinator will already be out in the community aiming to make the local population aware that Operation Smile are expected. Depending on whether the local population have access to TV and radio this may be done by a series of adverts on local media or visits to schools, as well as posters and talks at the local hospital. It is common for local politicians and doctors to be very supportive and Operation Smile take a great deal of care not to tread on anyone’s
toes and to make sure that they forge strong links with the local community. Several hundred parents and children will queue up outside the hospital gates at 8am and pass through a series of stages of screening. Children are initially weighed and have haemoglobin checked using a point-of-care testing method. They then progress past a series of ‘screening tables’. There is typically a surgical table, an anaesthetic table, a dental table, and a final table with a nutritionist and a speech therapist. If a child is deemed to be of correct age, weight and suitable for surgery and anaesthesia, they are then given a number and listed for an operation.

All sounds pretty straightforward so far? Now for the big differences. No ODPs! Anaesthetists in the US tend not to work with ODPs so you need to get used to setting up your work space and having complete responsibility for your machine, fluids and drugs. There are typically two operating tables in one theatre so that no anaesthetist is working completely alone. The theoretical infection risk is thought to be outweighed by the benefits in terms of safety. Parents do not accompany children into theatre, again for safety reasons and in keeping with cultural norms. There are also no anaesthetic rooms so it is common to be putting a child to sleep whilst another child is being operated on only a few feet away. Some common sense rules need to be applied here so that the anaesthetist next door does not intubate or extubate a child at the same time that you are planning to intubate or extubate, and the most senior paediatric anaesthetist is always kept free so that they can assist in an emergency or help cannulate during a gas induction.

I won’t dwell too much on anaesthetic technique here, suffice to say that Operation Smile advocate a spontaneously breathing technique, using a RAE tube and avoiding muscle relaxation if at all possible. Previous audits have shown that the vast majority of post-operative anaesthetic complications on these missions were related to use of muscle relaxant. Laryngeal mask airways are available as rescue devices but are not used for routine anaesthesia. Anaesthetists also tend to bring out their own laryngoscopes and sterilise them using the local hospital equipment when needed.

Operation Smile also has some very robust audit systems which would put many UK establishments to shame. We travelled with an auditor whose remit was to ensure that the WHO-mandated Team Brief was being done and to follow up outcomes of current and previous patients. One of the criticisms of charities such as Operation Smile is that they come to war-torn and deprived areas simply to do a few operations and have their photo taken whilst leaving the local health service to mop up any complications. In Operation Smile’s defence, they do travel back to the same area three to four times per year and give priority to children that they have previously operated on. This set-up actually works well with cleft repairs since the vast majority of these operations are ideally ‘one-offs’, i.e. they shouldn’t require further surgery.

Operation Smile differs from other charities in that their main focus is not training local staff (though it is common to get local surgeons coming in to watch). This seemed a little strange at first but the resources available to local anaesthetists are so different to our own that training in this set-up over such a short period of time would prove futile. It is also important to note that many anaesthetists in the developing world are not medically trained doctors and do not follow a training syllabus similar to our own. However, a large part of the Operation Smile team also consists of speech and language therapists, dentists and nutritionists and a big part of the work that they do is training local staff and providing support for children especially those who may not be suitable for an operation.

To conclude my tale, I returned from this mission knowing that we’d repaired 150 clefts (which wouldn’t have been provided for by the local health system) and hopefully changed 150 lives for the better too. I still keep in touch with many of the other volunteers and as a result have had invitations to visit destinations ranging from Lake Como all the way to Hawaii. So if that’s not an incentive to go on another mission soon, I don’t know what is!

If you are interested in getting involved please contact me via email on shilpa.reddy@nhs.net or contact Operation Smile directly on 0844 581 1110.
In March 2011, I had the opportunity to travel to Nepal to assist with anaesthesia delivery for a gynaecology camp coordinated by the medical aid organisation Prolapse Down Under (now called Australians for Women’s Health). Nepal is a land-locked country of approximately 23 million people located in Southern Asia. Access to medical care varies greatly by region, and is particularly limited in rural centres. These areas are burdened by poverty, limited education and understanding, underdeveloped resources and difficulties with transport. The majority of the approximately 1300 doctors in Nepal are centred in Kathmandu and other large cities.1, 2

Australians for Women’s Health is the brainchild of Dr Ray Hodgson, an obstetrician and gynaecologist from Port Macquarie in NSW, Australia. The location for the maiden mission, a rural town called Phaplu, was chosen based on the high prevalence of uterine prolapse. This is thought to be due to a number of factors, including lack of skilled birth attendants, with often traumatic deliveries;3-6 short recovery time post-partum before return to heavy manual labour3-6; high parity (due to limited access to contraceptives and cultural pressure to continue to bear children until a son is born7), and possibly nutritional deficiencies. Furthermore, once a prolapse has developed, few women can afford the medical and transport fees required to access prolapse repair surgery.8

Phaplu itself is a small rural village located in the mountainous district of Solukhumbu in Eastern Nepal. We arrived in Phaplu after an exhilarating flight through the breathtaking mountains south of the Himalayas. Soon after arrival, we set to work.

Patients began to arrive at the hospital the following day, and we soon found that we had several
hundred patients presenting with both urogynaecological and other health complaints. Through efficient screening by local medical officers and a recently retired Gynaecologist from Kathmandu (who describes herself as “retired, but not tired” - a moniker which was very accurate considering that she screened up to 100 patients in a single day), the number of patients suitable for surgery was considerably reduced.

Surgical treatment was prioritised for those with functionally debilitating prolapses. Those amenable to conservative treatment underwent the insertion of a ring pessary, as well as education regarding the management of these devices. A significant proportion of screened patients were unfit for surgery, primarily due to previously undiagnosed co-morbidities.

By necessity, preoperative assessments were very thorough; often this was the first time that women had seen a health care worker, and we identified a number of untreated medical conditions. In particular, we found a high incidence of chronic cough, likely a form of chronic obstructive airways disease due to a dependence on solid fuels combined with lack of adequate ventilation systems for indoor stoves. However, the possibility of tuberculosis also necessitated the delay of a number of cases for results of further investigation.

We were fortunate to have a team of American doctors from San Diego (with the Healing Hands for Humanity organisation) visiting to teach the local staff (nurses and doctors) basic obstetric ultrasonography. We managed to hijack the machines occasionally along with our trained colleagues, and on rudimentary cardiac examination found signs of significant cardiopulmonary disease, clearly a cause for concern. For example, we identified two women with valvular heart disease (aortic stenosis and mitral regurgitation). Neither woman had the finances to afford surgical care in Kathmandu, and unfortunately neither patient remained in the hospital for medical management – their cardiac symptoms impacted less upon their quality of life than the symptoms from their prolapses.

We were also relatively fortunate in the number of investigations available to us in this remote area of Nepal. These investigations included full blood examination, creatinine and urea, group and hold, ECG, sputum and urine microscopy, and chest x-ray. Another common chronic health condition which became evident on screening investigations was a high prevalence of pre-operative anaemia (mean Hb 10.1g/dL). This was probably due to chronic helminthic infection combined with malnourishment, and was contrary to my expectation of polycythaemia, given our altitude at 2413m.

We performed all elective procedures under spinal anaesthesia. Our team encountered many challenges in the operating conditions, including intermittent and unpredictable electricity outages (head torches doubling for theatre lights), lack of suction and effective diathermy, and equipment shortages as the camp progressed. In addition, the ambient temperature in the operating room was chilly at the best of times; one of our nurses had the foresight to bring ‘space-blankets’ for patients to maintain body temperature intra-operatively, and we improvised a fluid warmer in the form of an old unused infant incubator.
One memorable challenge that we faced was the management of a 57 year old woman who required a laparotomy at midnight for sepsis and acute retroperitoneal haemorrhage detected on the third post-operative day. Anaesthetic issues included the management of significant anaemia with no formal blood bank service; maintaining stable haemodynamic status in the context of significant bleeding and sepsis; and delivery of general anaesthesia in a resource-constrained environment. We were able to cross-match blood and administer two units of whole blood preoperatively from volunteers in the camp, thankfully without complication. Initially an epidural was inserted for a vaginal evaluation under anaesthesia; however, when it became clear that a laparotomy was required, a gas induction was performed using halothane and intubation proceeded uneventfully.

We encountered a number of difficulties in the delivery of post-operative care which required adaptation and collaboration in order to optimise conditions. The ward nurses were not trained in recovery and post-operative management, and in particular, they were unable to provide regular monitoring of vital signs, to manage urinary catheters or to act on untoward findings. This was due to a lack of resources (both personnel and equipment) as well as experience, and our interpreters were invaluable in helping to teach the local nurses and nursing students at the bedside. In addition, oxygen cylinders were not available, and instead we relied upon oxygen concentrators. These provided adequate oxygenation for the less stable patients... until the daily power outage arrived! An additional challenging case was the management of a patient who experienced a myocardial infarct postoperatively. For both this patient and for our woman recovering from her laparotomy for retroperitoneal haemorrhage, we converted the recovery room into a makeshift High Dependency Unit (HDU), where we continued supplemental oxygen and monitored both patients for a further 48 hours. During this time, both patients slowly improved, and were then transferred to a makeshift HDU section on the general ward, where they continued to make an excellent recovery.

This trip was rewarding both medically and culturally. In dealing with the various challenging situations, I learnt a number of valuable lessons. These included the importance of teamwork, not only amongst our group, but also in forming a team collaborating with the local staff. Effective communication was also essential, particularly due to the language barrier; our interpreters were invaluable in this respect. I came to truly appreciate the importance of a thorough history and examination, and I have no doubt that my clinical skills have improved as a result.

Finally, I would encourage any doctor considering joining such a medical aid trip to do so. Despite being relatively junior, I was able to learn and contribute as a valuable team member.

REFERENCES:
It is a pleasure to feature Florian R. Nuevo as the subject of the ‘profile’ in this edition of World Anaesthesia News. Florian is, without doubt, one of the best known and loved anaesthetists in the world, largely because of her warm personality and keen interest in meeting people. This was exactly my initial impression when I first met her during an anesthesia meeting in Bangladesh almost 10 years ago. Allow me then to share with you her answers to my interview questions:

RE: Why did you become a doctor?

FN: Actually, I learned my “do, re, mi” ahead of my “a, b, c”... coming from a family inclined to music. Nevertheless my grandfather, who was a “maestro” in music, said that I could be a doctor and enjoy the piano in addition. Hence, influenced further by my dentist-father and my pharmacist-mother, who is also a “coloratura” singer, I decided to take up medicine at the University of Santo Tomas (UST) in Manila, Philippines.

RE: Why did you choose anesthesia as a specialty?

FN: I chose anesthesia as a specialty in search of further knowledge. At that time, in the 1980’s, the Philippine government required that all newly licensed doctors must serve the country in the rural and distant areas for a period of 12 months. It was during that tour of duty that I realized I knew NOTHING about anesthesia. I could not understand why the surgeon could perform an emergency appendectomy on a 6 year old boy, but the anesthetist refused because she felt she was not capable of administering anesthesia in children. It then dawned on me that although I had basic knowledge of medicine,
paediatrics, obstetrics, and surgery I had ‘ZERO’ knowledge about anaesthesia.

Today, I am very proud to be an anaesthetist, and enjoy my clinical work as a cardiac anaesthetist attending to both children and adults. I am affiliated to 3 hospitals:

(1) Philippine Heart Center – a government training hospital, where I am also part of the CV Research Division.

(2) University of Santo Tomas Hospital – a private, tertiary teaching Catholic hospital, where I trained as an anaesthetist (1983-86); I served as Training Officer in Anaesthesia in 2005 and became involved in Anaesthesia QA from 1987 to the present, and was appointed in 2010 as the USTH Medical Quality Management Officer.

(3) PSH Cebu Heart Institute, a charity hospital run by Sisters of St. Paul; this heart institute is a “brainchild” of my late husband Dr Jaime Nuevo, who was a cardiac surgeon. We started this project in 1994. We served the poor people coming from the central and southern islands of the Philippines being the first heart institute outside of Manila. Unfortunately, in 2007 my husband died suddenly at the age of 56, from a severe aortic dissection but I decided to continue this commitment of service and work with the other surgeons whom he had trained and inspired.

RE: What are your contributions to Philippine Anaesthesia? How did you get involved in the World Federation of Societies of Anaesthesiologists? Have you made any contribution to the world community of anaesthesia?

FN: I believe it was my love for my work as an anaesthetist and my commitment to anaesthesia CME and anesthesia patient safety and quality care, that paved the way to my getting deeply involved in national and international anaesthesia organizations. This all started in 1999, when I was elected (unopposed) as the National President of the Philippine Society of Anaesthesiologists (PSA). Although I was always referred to as the “youngest female PSA President” – being only 43 years old at the time, this election was due to my 10 years of continuous service since 1989, when I was first invited to join the CME Committee.

During my term as PSA President, we were able to institutionalize the PSA national CME program in 13 regional chapters, adopt the PSA Guidelines for Safe Anaesthesia Practice nationwide, put up the PSA Website and start the computerization of our membership registry, and revive our publications – the PSA Journal of Anaesthesiology and PSA newsletter called “The Pulse Monitor”. Later on in 2004, I pushed for the creation of the PSA Safety Committee as a standing committee.

My formal international involvement started when I became the Chairman of the Confederation of ASEAN Societies of Anaesthesiologists (CASA) from 1999 to 2001, then I was elected as Chairman of the WFSA Asian Australasian Regional Section (AARS) from 2002 to 2006; it was during this time that I was nominated and elected as Deputy Chair of the WFSA Executive Committee form 2004 to 2008. During the WCA in Cape Town in 2008 I was unanimously elected as Chairman of the WFSA Executive Committee, and my term ended in 2012 in Buenos Aires.

Looking back, it humbles me to note that I have facilitated the formal organization of the Micronesia Anaesthesia Society (in 2005); started the WFSA-AARS education program on “Training the Anaesthesia Trainers” Course (in 2005 to the present). These courses have been conducted in Vietnam, Philippines, Thailand, and Indonesia. I also helped lay the grounds to enable the WFSA Safety and Quality of Practice Committee to become a standing committee, and be part of the Global Oximetry project. At the same time, I have remained an active member of the Asian Society for Cardiothoracic Anaesthesia since 2001.

RE: Is there any message you would like to share with our colleagues?

FN: All I want to share with the readers of WA news is that it is important that we realize how privileged we are as physicians, able to understand people beyond their illnesses and sufferings. As an anaesthetist, I realize the extent to which each surgical patient or mother in labor, helplessly submits themselves to us, entrusting us with their own over-all wellbeing, including that of the unborn. Knowing this responsibility, we must deliver the safest anaesthesia management possible in whatever environment we work.

I believe that the one factor that we can best optimize, wherever we are situated, is our personal skill and knowledge with respect to safe anaesthesia.

Nevertheless, this can be further enhanced with good communication with our allied health providers, and most importantly, with our patient and their family. Let us all join hands in promoting the highest standards of anaesthesia care in our respective situations. Good luck and keep going.

RE: Florian, you have inspired many young doctors during your remarkable career. It is not surprising that all your three of your daughters have also decided to study medicine too. They could not possibly have had a better example and we wish you and them every success in the future.
An opportunity to make a difference
The formation of Safe Anaesthesia Worldwide
Dr Roger Eltringham¹ and Carol Newman²

¹ Medical Director, Safe Anaesthesia Worldwide
² Secretary, Safe Anaesthesia Worldwide.

Delivery of overseas aid can be an extremely slow and frustrating experience. Reasons for this include the excessive bureaucracy, indecision, frequently changing staff, conflicts of interest, waste, inefficiency and, sadly, corruption. Safe Anaesthesia Worldwide (SAWW) was set up to bypass these obstacles and enable effective aid to be made available without delay and rapidly establish an anaesthetic service that was effective, affordable and sustainable even in the most challenging situations.

Worldwide an estimated 2 billion people lack access to adequate surgical services, mainly in the developing world.¹ As a result, patients fail to receive the treatments they need with consequent suffering and preventable deaths. Three principal needs were identified that the charity would address to improve this situation:

1. Provision of equipment suitable to the local environment.
2. Research to improve the delivery of anaesthesia in these environments, such as the development of new equipment.
3. Education and training for those working in these environments.

EQUIPMENT
Sophisticated medical technology inevitably fails to function in low-resource settings. The World Health Organisation estimates that up to 70% of medical equipment donated to sub-Saharan Africa is not working because it is unsuitable.²

Equipment was identified that had a proven record of reliability in difficult locations that could function in the absence of oxygen and/or electricity and did not require servicing and maintenance by highly skilled electronic engineers. These have included Lifebox pulse oximeter (www.lifebox.org) supplied to anaesthetists in Chad,
The Gambia, Syria, Uganda and Somaliland.

The portable Glostavent anaesthetic machine, which can function with virtually no back up facilities, has been supplied to hospitals in Somaliland and Tanzania; to an anaesthetist establishing a charitable clinic in South Sudan; and to anaesthetists in Syria treating patients in makeshift operating theatres in a domestic setting.

Airsep oxygen concentrators, identified as being the most reliable models\(^3\) have been supplied to hospitals in Somaliland, Tanzania, and The Gambia. A simple and effective CPAP machine that is driven by an oxygen concentrator has been donated to a hospital in Tanzania. A newly devised analgesia inhaler to provide low cost, inhaled pain relief to mothers in labour has been provided to hospitals in Mozambique and Zambia, and is also being trialled in Malaysia.

All donations were subsequently reported as fully functional locally.

**EDUCATION**

It was also recognised that anaesthetists working in isolation without the advantage of continuing education needed help. Education programs have been supported in Bangladesh, Indonesia, Mozambique, Pakistan, Vietnam and Uganda.

**PUBLICITY AND FUNDRAISING**

A charity needs funds to support its work. Fundraising activities have taken many forms, including presentations to Rotary groups, Mothers Unions, Rugby clubs and schools, performance of concerts, manning stalls at fetes and the sale of paintings.

Schools have been particularly innovative in raising money after hearing, many for the first time, about the importance of anaesthesia and the consequences when an anaesthesia service is not available. Several students have been attracted to a career in medicine and found that their fundraising efforts have been greatly appreciated in subsequent medical school interviews.

Publicity has included radio and TV interviews, articles in newspapers and journals and the preparation and distribution of a newsletter.

Access to the public has revealed the full extent of ignorance and misunderstanding about the specialty of anaesthesia, an appreciation of the high standard of the anaesthesia service in the UK and an enthusiasm to help improve services to those with no service.

Several charities have been criticised recently for their high administration costs. All those associated with Safe Anaesthesia Worldwide have given their time and expertise freely so that administration costs are practically zero and any donations directed to improving anaesthesia services wherever they are most needed.

**REFERENCES**

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 in Bristol 30th April 2012
Contact: DWAsouthwest@gmail.com

Organisations

The 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. It runs the Ugandan Anaesthetic fellowship programme and is involved in the global oximetry project, which has informed Lifebox.
www.aagbi.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 anaesthesiologist 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.
21 Portland Place,
London, W1B 1PY
United Kingdom
Tel: +44 (0) 207 631 1650
Fax: +44 (0) 207 631 4352
www.anaesthesiologists.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

Primary Trauma Care Foundation
An organisation training doctors and nurses in the management of severely injured patients in the district hospital.
Box 880
Oxford OX1 9PG
United Kingdom
www.primarytraumacare.org
PTC Chairman:
Charles Clayton
ceo@primarytraumacare.org
PTC Administrator:
Annette Clarke
admin@primarytraumacare.org

Technical Assistance at Low Cost (TALC)
A unique charity that supplies low cost healthcare training and teaching materials to raise the standard of healthcare and reduce poverty worldwide.
PO Box 49
St Albans
Herts AL1 5TX
United Kingdom
Tel: +44 (0) 1727 853869
Tel: +44 (0) 1727 846852
E-mail: info@talcuk.org
www.talcuk.org
Durbin plc
This organisation has bought ECHO and now supplies drugs and equipment to developing countries.
Durbin plc
Durbin House
180 Northolt Rd
South Harrow, Middx.
HA2 0LT United Kingdom
Tel: +44 (0) 20 8869 6500
Fax: +44 (0) 20 8869 6565
www.durbin.co.uk

REMEDY (Recovered Medical Equipment for the Developing World)
Collects equipment and distribution to the developing world
3-TMP, 333 Cedar Street
P.O. Box 208051
New Haven
CT 06520-8051
USA
www.remedyinc.org
Remedy@Yale.edu
Tel: (203) 737 5356
Fax (203) 785 5241

Society for Education in Anesthesia
International members are invited to join this Society that promotes techniques and excellence in the teaching of anaesthesia.
520N Northwest Highway
Park Ridge,
Illinois 60069-2573
USA
Tel: (847) 825 5586
Fax: (847) 825 5658
E-mail: sea@asahq.org
www.seahq.org

Douleurs san Frontieires (DSF)
A French NGO that aims to create or to encourage any structure involved in the treatment of pain and suffering (cancer pain, AIDS, acute pain, etc.)
Douleurs sans Frontieres
Hôpital Lariboisière
2, rue Ambroise Paré
75475 Paris, Cedex 10, France
E-mail: dsf.france@douleurs.org
www.douleurs.org

International Anesthesia Research Society (IARS)
A non-political medical society founded in 1922 to advance and support anaesthesia and research and education.
100 Pine Street
Suite 230
San Francisco
CA 94111
USA
Tel: 415 296 6900
Fax: 415 296 6901
E-mail: info@iars.org
www.iars.org

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.
ICRC Headquarters
19 Ave. de la Paix
CH-1202
Geneva
Switzerland
Tel: +41 22 734 60 01
Fax: +41 22 733 20 57
www.icrc.org

Medical Training Initiative (UK)
Anaesthetists seeking posts in the UK should contact:
International Programme Administrator
Royal College of Anaesthetists
35 Red Lion Square
London WC1R 4SG
UK
(+44) 020 7092 1552
Email: IP@rcoa.ac.uk
www.rcoa.ac.uk

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

Going Overseas Network
A multi-disciplinary, multi-professional network, which facilitates and encourages UK healthcare staff to participate in training and service visits to the less developed world.
www.goingoverseasnetwork.org

Health Volunteers Overseas
Private non-profit organization dedicated to improving the availability and quality of health care in developing countries
www.hvousa.org/

Medecins Sans Frontieres (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. If you are interested in obtaining more information, contact them at:
64-74 Saffron Hill
London ECIN 8QX
United Kingdom
Tel: (+44) 020 7404 6600
E-mail: office-ldn@london.msf.org
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
VSO

VSO is a leading development charity that sends volunteers to work abroad with full financial support.
www.vso.org.uk

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

THET (Tropical health and Education Trust)
THET is committed to improving health services in developing countries through building long-term capacity.
www.thet.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.who.int/hinari

If you wish to advertise your organisation on this page (free-of-charge), please contact:
The Editors: WorldAnaesthesiaNews@gmail.com
Keep up-to-date with the World Anaesthesia Society via our facebook page.

Find us at

www.facebook.com/WorldAnaesthesia

www.aagbi.org/international/international-relations-committee/world-anaesthesia-society
Application Form

The current subscription is £35 per annum ($60, €50) and we encourage all our UK based members to pay by direct debit. Contact us via the website (www.aagbi.org/international/international-relations-committee/world-anaesthesia-society) or return the form below.

Name: 

Address: 

Hospital: 

Telephone: work: 

home: 

mobile: 

E-mail address: 

Job Title: 

Speciality: 

Grade: 

Signed: 

Date: 

Please return this form to:
Rola Alkurdi
Honorary Secretary
World Anaesthesia
21 Portland Place
London
W1B 1PY
UK