

Applicants are requested to please limit your report to 500 words and complete all sections of the template. Pictures and patient information may be included where relevant, although patient consent is required.

Applicant name:	Dr David Cressey	Location of project:	Carpenter, Northern Ghana, Africa
Value of grant received:	£825 (funded by Association of Anaesthetists)	Date of travel:	10.11.2018 to 24.11.2018
Name of Project:	Ghana Health Team 2018		
Brief outline description of the project(100words)			
<p>A team of around 60 volunteer health care workers largely from Canada and the UK has been visiting the rural area of Northern Ghana delivering a 2-week "pop-up" intensive healthcare service annually since 2017. The service includes ophthalmics, dental care, physicians and a surgical team. The surgical team (majority from UK) of 19 work in close cooperation with local staff to set-up 3 working theatres and overnight stay facilities in a set of buildings on a larger campus site. Each "theatre" is a tiled room with a simple operating table, some wall-shelves, an air-con unit and a simple hand basin. Doors and windows are sealed over with plastic sheeting. One theatre is designated for mostly GA operations, the other two largely under local but with a number of spinal cases and the occasional "rescue-GA" as needed. The surgery is essentially only for hernia repair (many of them huge inguino-scrotal). The anaesthesia is a combination of TIVA, Spinal and vapour-GA with an aging GE Ohmeda ADU-S5 using cylinder oxygen (the servicing of which is "difficult" and sparsely applied)</p>			
Feedback from local participants in the project: (100words)			
<p>The key member of local staff from an anaesthetic perspective was Eric Boateng, an experienced anaesthetic nurse-practitioner who took time away from his work at Wenchi Methodist Hospital to join the surgical team. Eric has been sponsored by the Northern Empowerment Association (a charitable non-government organisation working towards sustainable healthcare and enhanced living conditions for the people of Northern Ghana) to develop his clinical skills and achieve his Masters degree in nurse-anaesthesia. The near absence of medically qualified anaesthetists outside the 2 main cities of Ghana means any opportunities to share knowledge and learn new skills are highly sought after. For the 2 weeks we were "on-site" Eric worked with us every day grilling both myself and Karen Leyden (the other UK anaesthetic consultant in the team) at every opportunity in an inspiring display of dedication and enthusiasm to learn new skills. Already adept at spinal anaesthesia and having learned epidural techniques the year before with this project he was keen to learn regional anaesthetic techniques this year. With the gift of a nerve stimulator and teaching posters, discussion and theoretical sessions and a supply of needles he has now launched himself into his new skill set back at Wenchi Hospital. Eric is an excellent teacher for his 4 anaesthetic nurse colleagues and also shares his newly acquired skills with a wider audience through his attendance at regional educational meetings.</p>			
Your evaluation of the project: (100words)			
<p>Working with an outstanding, committed team (both the local healthcare workers and the specialist "imported" team) we were able to provide life-changing surgery for over 300 people including 20 children over the space of 9 long days of operating. The extreme degree of the pathology for many would have prevented effective working in the subsistence farming most have to cope with. Those adults treated could then continue to support their families and villages in maintaining food and income. The direct beneficial effect on those lives is easily measured. None of our patient could have afforded to pay for surgery even if it were available near-by. On a larger scale the education that Eric can provide to his colleagues and the on-going advice and support we can provide for Eric via our continued social media contact will hopefully provide a greater legacy for a wider patient group. For me the project has been a first opportunity to achieve a career-long desire to offer my skills in a very different environment to a highly deserving group of patients with very limited access to healthcare. It has left me wanting to do more.</p>			

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Sustainable and long-term impact of the project: (100words)

The Northern Empowerment Association working with the Canadian charity Ghana Rural Integrated development has worked to improve education, sustainable food sources and health within rural Northern Ghana for many years. The Ghana Health Team annual visits have been an essential part of that sustainable progress. Now having demonstrated both the need and the potential for healthcare delivery in Carpenter and with significant financial backing from the Canadian charity and support from the Ghana government a new purpose designed 50 bed hospital is to be built to deliver year-round healthcare in Carpenter. The foundations for the Layaata Hospital will be laid in 2019 with a hope the hospital will be running by 2020. Local staff like Eric Boateng will lead that service-delivery. The Ghana Health team 2019 will target the training of surgical scrub staff and preparations to enable the hospitals launch and continue to support the project both on-site and on-line.

Conclusions/recommendations for future engagement with local anaesthetists: (100words)

The delivery of anaesthesia via spinal, regional techniques and using TIVA techniques is particularly well suited to the surgical and anaesthetic capabilities in rural areas of Ghana. As with most health services a key problem is finance and the cost of drugs and of advanced kit is a major aspect of that. Ghanaian anaesthetic nurse practitioners are entirely capable and very enthusiastic about the use of improved techniques if the kit can be made available and the essential servicing provided to maintain the equipment. Projects such as Lifebox and WHO processes to improve safety are well received. With the provision of better quality portable monitoring devices at affordable prices and supported with locally delivered technical support now a reality there is a clear opportunity to move on to provide the portable anaesthetic equipment to go with it in a similar fashion. Anaesthesia anytime, anywhere, anywhere is readily achievable.

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Ghana Health Team 2018



The Anaesthetic Team outside the Recovery room.

Becky Jones¹, Debbie Green¹, Karen Leyden², Eric Boateng³, Dave Cressey²

¹ Anaesthetic Nurse UK

² Anaesthetic Consultant UK

³ Anaesthetic nurse Practitioner Wenchi Methodist Hospital Ghana



Eric with the precious Cylinder oxygen supply. Refills available 4 hours away (or in emergency borrowed from Wenchi Hospital an hour away).

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An adapted WHO checklist. No paperwork exists for health records, no knowledge of allergy status from majority/all patients, few have a realistic idea of their age in years so an estimate is only option, address can only be "Village". HIV testing performed for all patients pre-op on day of surgery. Of over 300 operations only 1 patient positive for HIV.



The Recovery Room with improvised shelving storage and second and third choice recovery chairs. Keeping the patients warm post-op was not a problem as there was no air-con and the temperature outside was rarely below 30 degrees celcius.

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Operating theatres: before set-up, ready to go and in-action.

Surgical Stats

- 334 operations in two weeks over three 'theatres'
- Paediatric GA 22 (pre-med midazolam PO 1mg/kg, Sevo induction then change to TIVA with O₂ from concentrator...limited cylinder O₂ supply)
- Adult GA's 57 (80% TIVA, Propofol+Remi cocktail)
- Intubated 6 (Vecuronium, hand ventilation)
- Spinals 18 (2% heavy prilocaine 2-3mls last 1-1/2 hours)
- 'Rescue' GA's 4 (TIVA pump, portable monitoring, Waters circuit and oxygen concentrator..Anytime, anyplace, anywhere...)
- Blocks by anaes for post-op pain in GA patients; many (3 Bilat TAP with US, rest ileoinguinal)