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Anaesthesia provision and an evaluation of the WHO Surgery Checklist in Guinea

Mercy Ships operates the world's largest charity hospital ship, the *Africa Mercy.* On board there are 6 theatres, 4 wards and a CT scanner. From September 2012 to June 2013 we were in Guinea at the invitation of the President to deliver surgical services and healthcare education free of charge. On board I am responsible for the provision of anaesthesia ICU and pain services on board the *Africa Mercy*, as well as our healthcare education strategy.

I work for Mercy Ships full time and am not paid a salary or provided with board and lodging so have to raise all my own support costs which this grant from the AAGBI has contributed towards. Guinea which is the 10th poorest country in the world and Table 1 shows details of approx. 2,500 operations and the education delivered by Mercy Ships in Guinea.

One specific focus in Guinea was the WHO Surgical Safety Checklist. We conducted an observational study to evaluate different methods of checklist training: team training on board, individual training on board, or one day classroom training. On board training allowed longer duration (up to 10 days), more in depth discussion, and active participation in the checklist on a daily basis. The impact of training was assessed at 3-6 months by structured interview of participants, as well as other hospital staff including the hospital directors.

Team training on board ship was more successful than individual or classroom training. Only participants who had undergone team training were able to implement a form of the checklist in their own environment and also reported improvement in 3 keys areas of the WHO initiative: teamwork, anaesthesia and infection control. Four out of 6 hospitals did not intubate patients, had no oxygen or pulse oximetry available and therefore considered these aspects of the checklist to be unecessary. Only those undergoing team training managed to implement discussions about blood loss. None of the surgeons counted sponges or instruments prior to training but all successfully implemented this afterwards.

Anaesthetists who trained alone were unable to implement any changes in their own hospitals but did report their own anaesthetic practice to have benefitted from better organisation. This may be because there is no formal anaesthesia training in Guinea, so anaesthetists are not respected as professionals who can implement change and improve patient safety. Team training was perceived as better because, 'if only one person comes back with new ideas, then people don't believe them and this makes it hard to implement change'; 'two people are better because they can learn different things. It is too much for the doctor to do alone'.

I am very grateful to the AAGBI for supporting me with this grant and enabling me to serve the people of Guinea.

Table 1 Surgeries performed in Guinea (35% of which were on children), and the Education projects (the healthcare ones are those I was responsible for).

SURGERIES	Number of Surgeries	EDUCATION: Mentoring Projects	Number of Participants	EDUCATION: Courses & Conferences	Number of Participants
Eyes	1,617	Cataract Surgeons	5	Anaesthesia	49
Maxillo-facial	666 (inc. 176 cleft lip and/or palate)	Eye Nurses	7	Midwives	13
Plastics	99	Maxillofacial Surgeons	1	Mental health	133
Obstetric Fistula	63	Plastics Surgeons	1	Leadership Course (Church Leaders)	463
Orthopaedics	116	Orthopaedic Surgeons	2	Leadership Course (Community Leaders)	423
Dental	12,209	Ponseti casting technicians (for clubfoot)	33	Leadership Course (Government Leaders)	313
		Obstetric Fistula Surgeons	4	Agriculture	18
		Obstetric Fistula Nurses	3		
		Dental Students	2		
		Anesthesia Providers	5		
		Sterile Processing Technicians	5		
		Palliative care	14		