Ambitious 2030 goals for global surgical and anaesthesia services

By Dr Alan Goodey, Global Health Committee member and Immediate Past GHC Chair

In 2015 the Lancet Commission on Global Surgery set core indicators for monitoring universal access to safe, affordable surgical anaesthetic care. They set some ambitious goals for 2030, including a minimum of 80% coverage of essential surgical and anaesthesia services per country. A second indicator, which is more easily measured but still extremely challenging, is 100% of countries having a minimum of 20 SAO (specialist surgeons, specialist obstetricians and specialist anaesthetists/anaesthesiologists) per 100,000 population. [Recommended further reading on the Lancet's Commission Goals https://globalsurgery.ucsf.edu/media/8065752/Overview_GS2030.pdf)

In the South Western Pacific region, that New Zealand has a particular interest in, there are some difficulties with delivering access to surgery within two hours to often small, remote isolated populations. Many of these populations are well under 100,000 and in these circumstances one surgeon and one anaesthetist may well provide more than enough capacity to achieve the intended goal of 5,000 operations per 100,000 people. For these islands, the issues are maintaining competency and engagement, and retention of health practitioners.

However, for the larger Pacific Island countries achieving the target of 20 SAOs per 100,000 population by 2030 remains largely aspirational. At the current rate of workforce training and turnover I doubt it is achievable without significant additional resources allocated to training.

I believe that the majority of NZSA members would want to see the NZSA actively involved in assisting our Pacific colleagues to make progress towards these goals. The NZSA can assist in three strategic ways to increase the capacity of the anaesthetic workforce in the Pacific. These are outlined below:

Strategy	**Issues**	**Activities for NZ Anaesthetists**
Retain and maintain the current workforce	• Small numbers of practitioners lead to risk of burnout, fatigue, ill health. • A vulnerable workforce • As soon as the new trainee qualifies the older doctor moves on.	• Mentoring • Providing locum cover to allow leave for CME and holidays. • Sponsor Pacific colleagues to attend CME events.
Train the future workforce	• Relatively expensive • Centralised training in Fiji results in loss of workforce in home countries	• Assist the movement to more formal training in home countries. • Advocate for more funding for training.

	and Fiji over reliant on foreign doctors.	• Anaesthetic groups sponsoring training
Assist the development of the support structures to make anaesthesia safer	• Issues related to medical workforce worse for all workforces with possible exception of nursing. • Regular failure of supply chains, equipment, maintenance issues. • Over reliance on donated, expired or old equipment and pharmaceuticals.	Support the current physician workforce to advocate for the support structures and their funding and staffing. Assist with the training of biomedical engineers, anaesthetic technicians, anaesthetic nurse assistants and recovery nurses.

For the remainder of this article I will focus on training of the future workforce, looking at how the workforce is currently trained, and how training needs to adapt and expand to achieve at least an approximation of the Lancet Commission's targets.

In the South Western Pacific, most countries follow a model of physician providers of anaesthesia. The exceptions are Papua New Guinea, and Vanuatu, which have a combination of physician anaesthetists and non-physician anaesthetists (either nurses or scientific officers). There are two regional universities providing postgraduate training in anaesthesia, the University of Papua New Guinea and the Fiji National University (FNU). ANZCA provides support for the training in PNG and the NZSA and ASA support training in Fiji. As such I will concentrate on the Fiji MMED program, which the NZSA most closely interacts with.

To train as an anaesthetist at FNU, the trainee must have a medical degree for entry. Generally, they must apply for a scholarship to have their tuition fees paid for, which is currently F$16.5K per year. The course is divided into a one-year diploma course, and then for those interested, there is a further three years to complete a Masters degree in medicine specialising in anaesthesia. At the end of the four years the trainee has a degree roughly equivalent to our ANZCA Fellowship and is considered a Consultant or Specialist Anaesthetist. They are well trained to have a major impact on the development of anaesthesia wherever they end up working. As such, the ongoing training of anaesthetists to this level will be critical to enable training other anaesthetists in their home countries, and to develop robust support services needed to deliver high quality anaesthesia and critical care.

The one-year diploma course offers a quick way to produce anaesthetists who can provide basic level care and is an affordable means of expanding the workforce. There are obvious limitations of trainees' knowledge if they only complete the diploma, and limits on their ability to develop as future leaders and educators. I personally think that it may be an appropriate level of training for doctors from some of the smaller populated islands, especially if the practitioner has also completed a second or third diploma in another specialty to enhance their general skills.

Until the last two years, all formal anaesthesia training towards the FNU qualifications occurs in Fiji. Fijian trainees need to obtain funding for their university fees, but can live on their available local resources. For trainees from the rest of the Pacific, they not only have to get support towards their university fees, but to also obtain sponsorship to support them while they live in Fiji. My understanding is that although they make up a significant portion of the trainee workforce in Fiji, they are not paid for any clinical contribution they make by Fiji's Ministry of Health.

While Fiji clearly benefits from this increase in workers at minimal cost, their workforce is also made vulnerable by the sudden decrease in numbers of doctors during the Christmas/summer break, and this year during the COVID crises when many doctors have returned to their home country.

For these non-Fiji based trainees a huge personal and financial sacrifice is made to complete the MMED training. In addition, the home country loses a trained medical professional for the time of their training, which puts an additional pressure on the limited staff resource in the home country. Some of the trainees eventually put roots down in Fiji and become a loss to their country of origin.

Despite these significant problems there are also good reasons to continue to support the current training in Fiji rather than try to create a new training regimen. The benefits include building a support network of anaesthetists with a common centralised experience of training. Pacific anaesthetists not only share the common issues of providing anaesthesia in relatively low resourced settings in a Pacific Island context, but get to know each other sitting exams together, collectively sitting through shared tutorials and solving common issues through the training program.

The program has been developed over the last 40 years and has high standards and expectations, both of students and the faculty. To try and recreate an alternate program would be expensive and likely result in an inferior product in the short term. By having a program specifically aimed at developing an anaesthetic specialist workforce in the Pacific context, trainees are better prepared for working in their own environment than if we were to offer the ANZCA curriculum for example. It also remains important to have a not directly transferrable qualification from the Pacific to Australia and NZ as this would undoubtedly result in a "brain drain" and limit the ability to build a sustainable workforce in the Pacific.

For 2019 and 2020 FNU, with assistance from the ASA and NZSA, has moved towards offering some of the training for non-Fijian trainees in their home country. The major prerequisite is that there is at least one and preferably two FNU MMed qualified anaesthetists in the home country to supervise the training. We have been working to get anaesthetists from Australia and NZ to do some supervision in the home country to bolster supervision. This has been severely limited this year due to Covid-19 travel restrictions.

FNU Training Scheme

Year of training	Course content	Old system Pre 2019	Spoke and wheel training 2019 onwards
Year 1MMED (Diploma)	Basic one-year training	Fiji	Fiji
Year 2		Fiji	Home country
Year 3	Main exit exams	Fiji	Fiji
Year 4	Formal project	Fiji	Home country

In 2019 Tonga led the way with Dr Siale Hausia, beginning his second year of training at home. He was able to be trained by two fully qualified MMED anaesthetists Dr Selesia Fifita, and Dr Apaitia Goneyali. Also, Dr Meg Walmsley and Dr Justin Burke from Australia visited and provided some additional in theatre training for Siale. The year went very well and possibly provided a higher level of supervision for Siale than he would receive in Fiji.

Siale started this year in Fiji to do the bulk of the academic work and sit the main exams of the course. The hope at the start of the year was for this to be completed in Fiji and for Siale to return to Tonga for his final year, complete a formal research or audit in Tonga and complete his Masters program.

In 2020 we have attempted to commence a similar scheme for Dr Cecilia Vaai in Samoa. Cecilia has completed her Diploma and has been waiting for an opportunity to complete her Masters program. Samoa is a little different from Tonga in that there is currently only one MMED graduate, Dr Lamour Hansell. In addition, the Samoa medical administration seems less interested in developing the anaesthetic workforce. Presumably, they feel they have other even less resourced specialties. Apart from Dr Hansell, the senior anaesthetic workforce is made up of Dr Pesa Une, a diploma qualified anaesthetist who is heading towards the end of his career and has had some recent health issues and Dr Yew, a Chinese anaesthetist provided by the Chinese government. Samoa are funding one other trainee, Dr Mua, in her third year of training. Due to Covid, she is back in Samoa and this is the year in the spoke and model system in which she is supposed to be in Fiji sitting exams (the issue is yet to be resolved).

The population of Samoa in the 2018 census was 196,130, which based on the Lancet targets suggests that they should have a minimum of 10 physician assistants. They currently have three consultants. If the trainees are included, the numbers go up to eight, all of whom are working at the main hospital on the island of Upolu. There are 46,000 Samoans living on the larger island of Savaii. There is no surgical service available to these people and a trip to the main hospital in Upolu is at least half a day away, making the Lancet Commission's timely access to essential surgery within two hours impossible.

Samoa also has aspirations to provide intensive care services for their population. Dr David Galler was instrumental in setting up a very high quality service for a few years. This service received a lot of publicity when the Chiefs Assistant Rugby Coach Andrew Strawbridge became unwell, which helped with funding and development. Unfortunately, there were not the numbers of anaesthetic trained or intensive care trained doctors to cover the roster needed for a standalone unit. I highly recommend this presentation https://youtu.be/MJtM1qKB1gk given by Dr Dina Tuitama to the World Congress of Intensive Care to reflect on the issues our colleagues in the Pacific experience. Dr Tuitama is a highly talented doctor who has at least for now been lost to our combined specialty of anaesthesia and intensive care. Sadly, at the present time I worry that she will not be the last who can no longer continue. Specialist doctors are expensive to train and it is essential that they are valued and retained.

The lesson from this experience is that while it is desirable to develop intensive care as a specialty in the Pacific, the current effort should be to train combined anaesthetist/intensive care specialists to cross cover the demanding rosters.

The big barriers to training more anaesthetists

The barriers are funding and total numbers of doctors being trained. It is clearly a significant cost to fund the training in Fiji, both the direct fee and to support a non-Fiji trainee to live and study in Fiji. Not surprisingly the health administrators who administer the limited number of scholarships available try and share these out evenly amongst the different medical

specialties. However at the current rate of scholarship approval for anaesthesia in Samoa, the experiences that forced Dr Tuitama out of hospital medicine, and the small existing workforce, I don't see much progress being made on building a sustainable anaesthetic workforce in Samoa let alone achieving the Lancet Commission's targets.

And this is not just a problem for anaesthesia. Every other specialty also needs to build its workforce and struggles with funding. The problem is they are all competing for the same small pool of money. It seems self-evident that the answer to this is to expand the funding pool. The NZSA we can do this by either advocating to other funders such as the NZ Ministry of Foreign Affairs and Trade or by finding funds ourselves to sponsor the training of anaesthetists, across the Pacific. If we move into the funding and purchasing side of the equation, we are also in a better position to start arguing for a better deal when it comes to fees etc. Obviously, the NZSA does not have the kind of money I am talking about, however I do think the members of the society have the capacity to raise funds if this were an area they wanted to be involved in. I liken such an arrangement to the WFSA Fund a Fellow project where individuals and anaesthetic groups sponsor anaesthetists from developing countries to get further specialist training.

The NZSA Global Health Committee have cautiously dipped its toes in the water, part sponsoring the training of Cecilia Vaai this year. We are still working on how we might get ongoing sponsorship to continue Cecilia's training for next year with the added expenses of being in Fiji.

The 68th World Health Assembly in 2015 passed a resolution for the first time recognising that surgical and anaesthetic care are an essential component of Universal Health Care. Five years later, amidst a Global Pandemic, it is interesting to reflect on progress made towards providing safe, effective obstetric, surgical and anaesthetic care for the South Western Pacific.

The Lancet Commission published a series of KPI's the same year as the WHA resolution. It is probably time to assess how our region is performing on the KPI's and the Commission's targets for 2030.

Until the Covid-19 pandemic the surgical capacity in the Pacific has been significantly increased thanks to regular surgical teams visiting from Australia and New Zealand. While it may be impossible to eliminate the dependency on these visiting teams for more specialised surgery, the pandemic reinforces the need to strengthen the vulnerability of the workforce. It is easy to imagine a Covid-19 outbreak quickly overwhelming a Pacific Island health service. The risk of losing key members of the health response could lead to a major long term set back in improving access to surgical services. Ironically at the very time travel is limited, funding for expensive surgical trips could be diverted to the expansion of training Pacific health professionals.

As fellow anaesthetists we are in a unique position to advocate for our colleagues in the Pacific. Even if the targets placed by the Lancet Commission are ambitious, we have an opportunity to advocate and assist strengthening anaesthesia, intensive care and surgical care in the Pacific.