

OCEANIA UNIVERSITY OF MEDICINE: The New Face of Innovative Medical Education & Research in Samoa and the South Pacific

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Samoa is a small, peaceful nation in the South Pacific with a population of approximately 189,000¹. This country has a severe shortage of doctors and it faces numerous obstacles in attaining sufficient numbers of doctors and allied health professionals to meet its health needs in the decades ahead. According to Watters and Scott², Samoa had 35 doctors for every 100,000 citizens compared to 250 in Australia and 220 in New Zealand. This number could be as high as 70 doctors per 100,000 according to a source in Fiji³.

In the absence of incontrovertible data, the true number of doctors may lie between 35 and 70. For the purpose of this article we could take an average of 55 doctors per 100,000 Samoan citizens. Samoa should aspire to have a steady-state level of 70-100 doctors for every 100,000 citizens by the year 2025 in order to realise a quality health care system. Such an increase would also ensure adequate health services in the rural and remote parts of the country by placing qualified doctors into the district hospitals.

Until recently the primary source for the training of doctors for Samoa has been the Fiji School of Medicine (FSM) which was established in 1885 by Dr. (later Sir) William McGregor³. However, local demands and restricted capacity has limited FSM's capacity to train additional doctors for Samoa. Here we present our views that the Oceania University of Medicine (OUM) can offer a cost-effective, quality medical education for Samoans and neighbouring island nations and its success can be assured by additional scholarships from the Samoan government, major government aid donors (such as AUSAid, NZaid) and the World Health Organization (WHO).

Developing and retaining a professional 'graduate' workforce is one of the key elements of developing and strengthening workforce capacity and economic stability and doctors are key to delivering effective healthcare. Previous studies tracking medical migration patterns in the Pacific islands suggest that many migrants remain connected to their island homes

through return visits, sending remittances to family and retaining homes or land^{4, 5}. Other studies indicate that Samoan graduates who are resident in New Zealand and Australia visit the island, often taking their children to visit 'home', but they do not necessarily return to live or to work⁶. The main reason appears to echo the findings of the international studies on medical and nursing workforce migration patterns in that the lack of availability of suitable employment and the disparities in potential income are major factors. Bedford and Hugo⁷ cite Liava's⁸ research in Tonga which indicates that successful return from long established residence in New Zealand to Tonga was predicated on four factors: (1) family reunification, (2) a sense of Tonga as 'home', (3) availability of suitable employment, and (4) availability of land.

Bedford and Hugo also note that attention should be paid not only to the fluidity of the population, but to the effectiveness of the population that remains at any one time on the island, "*the population that draws on the basic services and facilities (water, sewerage, commercial enterprises, accommodation, health services, employment, etc.)*"⁷ In light of the extensive mobility of Samoans and developments in tourism and business enterprises, this highlights issues at the micro-level relating to the viability of the smaller resident populations in the context of enduring sustainable development. There are also implications at the micro-level for the Samoan health workforce. There is a need to not only consider the 'effective population' in terms of the workforce that draws on health services, but also to determine the most appropriate shape, structure and skills of the health workforce so that it can deliver an effective service to the populations of Samoa and more widely in Oceania.

Although the causes of these wider public service issues are based largely outside the realm of medical education, medical education programmes and the medical schools that deliver them are one part of the solution. Governments, medical schools and communities have responded to workforce issues through a range of means including wholesale curriculum reform, affirmative action programmes (linked to local communities or to encourage and support applicants from specific ethnic groups) and the establishment of new medical schools.

To address some of these issues, the Oceania University of Medicine (OUM) was established in Apia (the capital of Samoa) in 2002 with the following mission:

To produce physicians with the requisite knowledge, skills, and attitudes to improve the health of underserved communities in Oceania and beyond, via traditional and innovative instructional modalities to help individuals overcome distance, personal, and professional barriers to realise their calling to the medical profession.

With the University's mission and objectives in mind, OUM aims to graduate doctors who:

- Are committed to rational, evidence-based, and compassionate healthcare;
- Engage in productive professional relationships to acquire, evaluate, and communicate information;
- Apply critical reasoning to medical care;
- Apply understanding of illness to its prevention, identification, and management and to the promotion and maintenance of health;
- Apply understanding of the practice of medicine in a community or population;
- Take responsibility for self-education and self-evaluation.

Establishing a quality new medical school is always difficult, but doing so in a remote island nation such as Samoa poses major challenges. However, the widespread implementation of online distance and internet/computer-based pedagogies that supplement traditional classroom learning provides novel opportunities for overcoming the traditional barriers to delivering a good medical curriculum.

There is widespread illustration in practice that new medical schools do not need the full range of resources available to established medical schools. Lawson et al describe how the new Australian schools had *'the luxury of first choosing the curriculum and then devising the best way to deliver it, unlike older schools which had to impose new courses onto pre-existing structures'*⁹. OUM found itself in a similar position to all new medical schools around the world and could engage in an innovative paradigm that suited countries like Samoa which are geographically isolated but have access to a fast internet service.

OUM was founded on a paradigm reported by Neame¹⁰ in an article entitled: *"Universities Without Walls: Evolving Paradigms in Medical Education."* OUM has taken a leadership role in creating a blended-learning medical curriculum utilising asynchronous and synchronous e-learning technologies as a primary delivery mode in the early pre-clinical phases of the program. A four year, graduate-entry programme was launched in 2002, comprising a two year pre-clinical phase followed by a further two year hospital and patient-based clinical programme. OUM has developed a complete pre-clinical curriculum benchmarked to international standards that is adapted to campus-based or distance education or a combination thereof. A wide range of international lecturers supplement the quality curricular material through distance-learning to students based in Samoa and elsewhere. Advances in internet technologies and online instructional teaching tools enable real-time classrooms to be run over the internet without lag issues (Moodle - Learning Management System)¹¹ (Elluminate Live! - Learning Management System)¹². OUM students can therefore acquire a significant part of the knowledge and understanding of the basic, clinical, social and pathological sciences relevant to

medicine via distance education and participation in online discussion groups.

Upon successfully passing a major hurdle examination at the end of the pre-clinical phase, students then progress to the clinical component, which comprises two years of clinical rotations or clerkships located in various countries, including Samoa, the USA and Australia. Core placements include all the major medical and surgical specialties so that students graduate with a wide range of experience in clinical medicine.

Students are prepared throughout their programme, not only to practice medicine competently, safely and compassionately, but also to pass licensing examinations in the country of their choosing. Currently, students are exposed to more knowledge than is required to pass the licensing examinations of the Australian Medical Council (AMC) and the United States Medical Licensing Examinations (USMLE) and it is anticipated that, as student and faculty numbers grow, the standards of OUM will become comparable with established medical schools in the USA, Australia and New Zealand. Increasing numbers of students are now passing these licensing examinations and OUM has set a target of 75-80 percent first-attempt pass rates as its internal benchmark.

The graduate-entry model consisting of two years of blended asynchronous plus synchronous distance education plus 2 years of hospital-based clinical training is, however, not appropriate for all aspiring medical entrants. This model is oriented to students who are graduates, wishing a career-upgrade or change, and who are highly motivated self-directed learners. Those that come from an allied health background do exceptionally well during the clinical phase. Most of these students have families and professional careers. In other words, these are the prototypical students who face the obstacles enunciated in our mission statement (see above). In order to meet the needs of students and healthcare in the South Pacific and stay competitive with medical schools in the local Asia Pacific regions, OUM had to develop a new programme for school leavers, i.e. those who did not have a bachelor's degree or other university level healthcare qualifications. To this end, OUM intends to introduce in 2010 a five-year campus based MBBS degree. As a result of this initiative, Samoan and Pacific Island students and governments (through funding choices for medical student scholarships) will have the additional choice of studying medicine at OUM or at other schools in the region such as the FSM.

There are many statements of opinion available in the literature describing what a quality medical school should be. We share some of the perspectives written by Dean Keith D. Lindor of the Mayo Medical School¹³ in introducing that medical school and revised curriculum, summarising some of the key issues for a modern, innovative medical school:

1. The importance placed on educating the next

- generation of physicians;
2. The friendly, collegial atmosphere among faculty, students and trainees at all levels;
 3. The focus on the needs of the patient in all aspects of education, research and patient care;
 4. The opportunity to learn and practice medicine with the best in the world;
 5. The opportunity to conduct research in an environment where it can be directly translated to patient care;
 6. The emphasis that the team is greater than the sum of its parts;
 7. The excitement of working with others who are striving to do their best today, and to do even better tomorrow.

In addition to the IT infrastructure and international faculty, one of OUM's primary strengths is that the Apia campus is located within the National Hospital precinct which enables a seamless educational continuum between basic sciences and patient-based clinical training. This nexus encourages doctors of the hospital to visit the campus library to access online databases such as HINARI where more than 150 publishers offer more than 6200 journals¹⁴, attend CME seminars and undertake teaching and research activities at the medical school. This collaboration also aims to develop research capacity in Samoa in clinical research and also in medical education. The conjoint arrangement enables educators from the campus, both clinical and non-clinical, to interact with the various medical departments and services such as biochemistry and pathology. OUM also has a clinical skills laboratory which supports students and practising clinicians to practice, develop and enhance clinical skills in a safe and supervised environment. In this way, OUM is engaging in what Bligh et al call a 'symbiotic curriculum'¹⁵, in which medical schools have responded to the challenge of extending learning into the community. The 'symbiotic' curriculum design has been described as part of the PRISMS model.

The key features of the PRISMS model are that it is: Product focused - i.e. practice-based linked with professional development. Students learn about basic science by applying it in the clinical context; Relevant to students and communities, reflecting the needs of local health communities as well as student learning needs; Inter-professional - programmes will espouse, encourage and reflect a culture of multi-professional learning, collaboration and teamwork; Shorter courses taught with smaller numbers of students in each 'unit' (placement, learning set, group). This also reflects the worldwide shift towards graduate-entry programs with undergraduate education being better integrated with postgraduate training; Multi-site locations - shift from large teaching hospitals with restricted patient mix to primary care and smaller hospitals and units. This incorporates the shift to a more immersed learning experience, especially in community settings so that students can es-

tablish closer relationships with patients and health colleagues essential for contemporary medical practice;

Symbiotic (organic whole) - this is the link with the PRISM where clinical education is the driving force. Partnerships between communities, medical schools, learners and teachers are important and medical education becomes part of an increasingly diffuse and dynamic health system where health care is only one part of the wider public service agenda.

The PRISMS model reflects some of the worldwide trends in medical education, however the specific idea of the 'symbiotic' curriculum (involving partnership with communities and a shift of location of clinical teaching) has been taken forward as a slightly separate and highly influential model in many medical schools, predominantly in Australia and the UK¹⁶.

Despite high aspirations and a successful beginning, these are early days in the life of the new medical school in Samoa and OUM has many areas to improve and build upon before it can consider itself a medical school of high standards in the South Pacific. Attainment of an independent external accreditation sits on top of OUM's list. OUM was recently granted 'Applicant Status' with the Philippine Accrediting Association of Schools, Colleges and Universities¹⁷. This is an international accrediting body that is recognized by the National Committee on Foreign Medical Education and Accreditation (NCFMEA), a committee of the United States Department of Education. By subjecting itself to such an external accreditation, OUM was able to engage in the process of self-evaluation to identify strengths and also weaknesses that need to be rectified in the eight areas of operations that PAASCU will address. These include: (1) Faculty, (2) Curriculum, (3) Clinical Facilities, (4) Research, (5) Students, (6) Library, (7) Administration, and (8) General Facilities. The preliminary site visits by PAASCU will take place in November 2009.

Finally, OUM decided to make a major commitment to promote and engage in clinical research that is relevant to Samoa and the South Pacific. Not only is this a requirement for PAASCU accreditation (area 4 above) but is also consistent with its mission as a University dedicated to the creation of new knowledge as an institution of higher learning. Making an internationally significant contribution in the area of clinical research will take time, but steps have already been taken to engage in this area through its new Office for Research and Development. OUM plans to launch, in 2009, the *Samoa Medical Journal* and hold the first OUM conference with the theme "Heart Disease in Samoa" featuring international guest speakers. Both initiatives are being launched in partnership with the Samoa Medical Association, National Health Services and the Ministry of Health. OUM realises that engagement in research will result in a better understanding of disease prevalence and mechanisms, identifying specific research projects for MSc and PhD theses as the Medical School continues to grow. OUM places a high premium on medical and

educational research amongst its academic faculty and its partners in the health sector.

In conclusion, OUM, despite its youth, is on a journey to become a medical school of high quality in Samoa, the Oceania region, and beyond. To achieve this goal, its leadership must focus on good governance, achievement of an international accreditation, as well as graduating doctors that meet the approval of the communities they serve. The take home message is that Samoa is no longer isolated and a quality medical school can be realised there. The internet and a dedicated on-site and international faculty will ensure that Samoan and South Pacific Island medical students can get the same educational content and opportunities as those in New York, Melbourne, or London.

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