

COLLABORATION/PARTNERSHIP

## The Tropical Triangle: A Health Education Alliance for the Southwest Pacific

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**ABSTRACT Introduction:** *Few collaborations between universities in developed countries and medical schools in developing countries have been described in detail in the medical literature. We describe a collaboration between three medical schools, one in a developed country and two in developing countries based on shared challenges and missions.*

**The Alliance:** *James Cook University School of Medicine (JCU), Fiji School of Medicine (FSM) and University of Papua New Guinea School of Medicine (UPNG) are all located within the tropical regions of the Southwest Pacific. All schools serve vast geographical areas where much of the population lives in rural and remote communities with limited access to medical care. JCU's first class started in 2000 as the only complete medical school in Tropical Australia and was founded with a mission to meet the health care needs of rural, remote and underserved populations in the region. FSM educates medical students from most English-speaking developing Pacific Island Nations. UPNG serves a predominantly rural developing nation where infectious diseases and other diseases of rural developing nations predominate. Based on their common challenges and goals, the three schools established an informal collaborative relationship called "the Tropical Triangle" in the late 1990s.*

**Objectives, Activities and Challenges:** *These very different institutions are committed to an effective partnership based on mutual understanding and knowledge of each other's day-to-day challenges. Faculty development seminars on medical education have already been carried out in Fiji by JCU staff. JCU has also offered several PhD scholarships to FSM staff, three of which are in the process of being taken up. JCU has offered to make*

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available its online teaching resources to FSM and UPNG. Student exchanges are planned, and FSM and UPNG have exchanged examiners on several occasions for the MBBS and postgraduate programs. The possibilities for collaborative research on regional problems are being explored.

**Conclusion:** *The Tropical Triangle Alliance is a special and perhaps unique alliance based on equality and shared challenges. The benefits from this alliance flow both ways. The alliance may serve as a model for other collaborations between health education institutions in developed and developing countries.*

**KEYWORDS** *Education, medical, developing countries, Papua New Guinea, Pacific Islands, Australia, tropical medicine.*

## Introduction

Collaborations between universities in developed countries and medical schools in developing countries can potentially bring about in great benefit. The best way to approach such collaborations is not known, however.

Relatively few of these partnerships are described in detail in the medical literature. The University of Illinois has collaborated with Suez Canal University in Egypt in offering its Master of Health Professions Education on-site to 13 faculty members. This intervention was carried out in order to insure that curriculum innovations would be maintained and strengthened by a core group of faculty members who were educationally knowledgeable (Risley *et al.*, 1988). Moi University in Kenya has received support from a number of universities since 1989, including Ben-Gurion University of the Negev (Israel), Maastricht University (The Netherlands), Linköping University (Sweden) and Indiana University. These institutions meet regularly and work together cooperatively to avoid overlap and inter-institutional rivalries (Majoor, 1991). The International Clinical Epidemiology Network (INCLIN, 2000), established in 1980, has facilitated the development of Clinical Epidemiology Units (CEUs) in developing countries with the support of CEUs in developed countries ([www.inclen.org](http://www.inclen.org)) in order to promote research and evidence-based practice. Other collaborative relationships exist that have not been described in the medical literature.

Most partnerships are between well-established and well-resourced institutions in major urban centers in developed countries and resource-poor institutions in developing countries. The institutions operate in very different settings with different overall goals and missions. We would like to describe an alliance between three medical schools, one in a developed and two in developing countries, that we believe is unique in that it is based on similar challenges and shared missions.

## **The Alliance**

James Cook University School of Medicine (JCU) in northern Australia, Fiji School of Medicine (FSM) and the University of Papua New Guinea School of Medicine (UPNG) are all located within the tropical regions of the Southwest Pacific. These schools, while differing greatly in the available resources and the major health problems encountered in the populations they serve, have many similarities. They all serve large geographical areas where much of the population lives in rural and remote communities with limited access to medical care. The region has many diseases that are not well described, and where only limited research has been carried out.

James Cook University School of Medicine (JCU) accepted its first cohort of students in 2002 and is the only complete medical school in tropical Australia (Hays, 2000). The school was established with a unique mission, supported through legislation, to meet the medical needs of underserved populations and communities in northern Australia. JCU is especially strong in general practice, rural health and medical education. It is reasonably well resourced in the basic sciences, information technology, and access to clinical facilities, including the major tertiary referral centers in the region, though the clinical departments are currently small and in a developmental phase. The six-year curriculum, while equivalent in content to other medical schools in Australia, has a special emphasis on the health needs of rural, remote and indigenous populations with a focus on the unique communicable diseases and public health issues in tropical Australia. The university also has a well-established School of Public Health and Tropical Medicine that works closely with the School of Medicine.

Fiji School of Medicine (FSM), established in 1885 (Lander & Miles, 1992), is the major institution for educating medical students from most developing English-speaking nations in Oceania. The health problems in these nations vary from a preponderance of tropical infectious diseases such as malaria and parasitic infections in countries such as Vanuatu and the Solomon Islands to nations where, in addition to infectious diseases, there are serious epidemics of chronic lifestyle diseases, such as diabetes and cardiovascular diseases, related to rapid development and overall increased longevity. The school has a six-year problem-based curriculum, and has a strong emphasis on public health and primary care. Recent years have seen a considerable increase in student numbers, curriculum renewal efforts and expansion of teaching into the community. Other recent initiatives have included the establishment of postgraduate training in obstetrics and gynecology, pediatrics, surgery, anesthetics and internal medicine. The school has limited resources in the basic sciences, and the small, dedicated faculty is faced with enormous teaching, and in many cases clinical commitments.

The University of Papua New Guinea School of Medicine (UPNG) serves a geographical area with a predominantly rural population, few roads and many

remote areas where access is difficult. In PNG, infectious diseases such as malaria, diarrheal and respiratory infections and other diseases of rural developing nations predominate, and under fives and maternal mortality remain high. The country also has an established AIDS epidemic. UPNG School of Medicine was founded in 1966 (Biddulph, 1990) and by 1999 had graduated more than 850 doctors. Despite considerable resource constraints, the school has recently undertaken major curriculum reform including the recent introduction of a problem-based curriculum with support from the Australian government. A postgraduate training program that was established in 1972 (Watters & Theile, 2000) has trained over 120 specialists and has been successful in placing them in many locations throughout the country.

The idea for the Tropical Triangle Alliance came about in the late 1990s during regional meetings where representatives of all universities were present. At that time, James Cook University was establishing a School of Medicine with the first class due to start in 2000. Representatives of the schools came to appreciate through their discussions that despite their outward differences, they shared similar missions and challenges and were close geographically, and that working together could bring about considerable benefit to their institutions and to the communities they served. Meetings to establish the directions of the alliance took place in 2000. The relationship is relatively informal, is not supported by any funding and has not been ratified with a memorandum of understanding. Future meetings should occur at least yearly at regional meetings that representatives from all schools attend.

## **Objectives, Activities and Challenges**

JCU, UPNG and FSM are very different institutions in very different situations. For a partnership to be effective, mutual understanding, including knowledge of the day-to-day challenges faced by each institution, is essential. Fortunately, JCU's School of Tropical Medicine and Public Health has an established history of preparing medical professionals for work in developing countries. In addition, the JCU faculty includes individuals with medical teaching experience in developing countries (including Fiji). These factors should allow JCU to have considerable sensitivity and relevance in its collaborations with FSM and UPNG. In addition, many faculty members at FSM and UPNG have worked or trained in developed countries.

JCU, UPNG and FSM have identified several areas where they would like to work together. Activities have already been carried out in some areas, while other activities are still in the planning stages.

### *Support of Medical Education*

JCU has well-established expertise in medical education. FSM does not have a medical educator on staff, while UPNG has had considerable project support

from the Australian government for establishing a PBL curriculum. JCU has carried out two faculty development seminars in Fiji, one two-day seminar on Effective Teaching and New Approaches to Adult Learning in June 2001 and a seminar on Assessment in October 2001. FSM has also undertaken an international accreditation process through the World Federation for Medical Education. The reviewing panel was composed of the medical school deans from JCU, UPNG and the former dean of the University of Queensland in Australia. FSM and UPNG have participated in exchanges of examiners for MBBS and postgraduate exams.

### *Faculty Development*

In addition to the seminars in medical education, James Cook University has also agreed to sponsor four PhD scholarships for FSM staff. Two FSM faculty members plan to enroll in PhDs in Medical Education, and have already participated in joint supervisory meetings with a JCU PhD student in Medical Education. One faculty member at FSM is planning to enroll in a DrPH through the School of Public Health and Tropical Medicine.

### *The Promise and Challenge of Information Technology*

While the availability of information technology (IT) offers a great deal in theory, the reality of how useful this technology will be to the Alliance is uncertain. JCU is developing a fully online curriculum, and in the clinical years will need to support teaching in widely-scattered sites across northern Australia. JCU is technically in an excellent position to extend the reach of its support of teaching into Fiji, PNG and the rest of the Pacific and has offered the other two schools use of its web-based teaching resources. While this could potentially help to reduce the burden of preparing teaching materials by faculty members at FSM and UPNG, so far, neither FSM or UPNG have made use of JCU's web-based materials. The most problematic barriers to using this material at this time are problems with costs of internet access, limited bandwidth, availability of computers and computer networks, and in some instances unreliability of telephone services and electricity in Fiji and Papua New Guinea, especially in remote areas. While the Alliance may be able to partially get around these problems using CD-ROMs and paper materials, the postgraduate programs at FSM have run into problems in some instances with unanswered e-mails, lack of compatibility of computer systems and delays in mail delivery with their distance education programs. This is a promising but potentially frustrating area that merits further exploration.

### *Student Exchanges*

The institutions have agreed to support student exchanges though to date these have not taken place. It has been agreed that usual fees will be waived, and potential sources of funding will need to be identified.

### *Research*

The institutions have agreed to look into pursuing shared research initiatives focusing on the problems of the region. The School of Tropical Medicine and Public Health at JCU has already established collaborative research with institutions and individuals in a number of developing countries, and so is an excellent position to work cooperatively with FSM and UPNG. So far, collaborative research is being mainly approached through the PhD students at the Fiji School of Medicine.

### **Conclusions**

We believe that the Tropical Triangle Alliance is a special and perhaps unique relationship. In other relationships between universities in developed and developing countries, support is often viewed as being unequal, flowing in one direction from the wealthier to the resource-poor institution, and the potential for insensitivity to or even exploitation of the “weaker” institution exists. Institutions in developing countries may need to balance competing and overlapping support from a number of institutions and agencies, and some support that is offered only partially meets the needs of the institution while adding administrative and other burdens. In the Alliance, we are determined to help meet each other’s needs and to complement the assistance given by other supporters.

At first glance, it may seem that FSM and UPNG have little to offer a well-resourced institution such as JCU. We do not believe that this is the case. The problem of knowing how to encourage and empower medical students to undertake careers in medically underserved areas has not been solved in either developed or developing countries. The best way to support effective clinical education in rural and remote settings where resources (especially faculty) are limited is not known either. We believe that there is much to gain from comparing our experiences with each other, and from sharing our findings with others.

We believe that the Tropical Triangle Alliance, through a shared, equal partnership, has the potential to make a positive impact on all three of our institutions, and to serve as a model for other relationships between institutions of health education in developed and developing countries.

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