

## Lead Article

### Donor countries may unintentionally become major beneficiaries of their own aid: the case of postgraduate specialist training at the Fiji School of Medicine

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#### Abstract

**Introduction.** The small island nations of the Pacific, like most developing countries, suffer from a shortage of specialist doctors. Postgraduate specialist training was established in Fiji in the late 1990s, supported by aid from the Australian government (AusAID). Anecdotal evidence suggests that loss to migration of graduates from the Fiji postgraduate programs has been substantial.

**Methods.** By January 2005, 120 trainees, 65 from Fiji and 55 from other Pacific Island nations had been trained to a one-year Diploma level or above. Data on these enrollees are analysed by gender, race, highest qualification awarded, and current working location.

**Results.** 64.6% and 65.5% of Fiji and regional enrollees respectively had left training with a Diploma, while the remainder were studying for or had been awarded a specialist Masters (MMed) degree. Of the 58 Fiji and 45 regional graduates no longer in training, 39.7% and 82.2% respectively were employed in the public sectors, and 37.9% and 9.4% respectively were believed to have

migrated permanently to a developed country, particularly Australia and New Zealand. By January 2005, more Fiji graduates lived in developed countries (25) than were working in the public sectors in Fiji (23).

**Discussion.** Australian aid has historically made an important contribution to medical education in Fiji and the Pacific. However, this study suggests that in spite of good intentions, donor nations such as Australia can inadvertently become major beneficiaries of their own aid, to the detriment of the countries they are trying to assist. Therefore attention should be given to try to prevent this from occurring. Australia needs to address its own doctor shortages and adhere to ethical recruitment standards. Fiji needs to determine and address the reasons for dissatisfaction of doctors working in the public sectors.

## Introduction

It is increasingly being recognised that shortages of health care workers, exacerbated by migration, is one of the major threats to improving health status in developing countries and to achieving the millennium development goals<sup>1-10</sup>. Human Resources for Health has been identified as a critical issue internationally, and has been selected as the focus for the World Health Report for 2006<sup>11</sup>. A recent editorial in the Medical Journal of Australia has emphasised the role of Australia in helping developing countries, especially its near neighbours, to reach the Millennium Development Goals, including a commitment to strengthening the health care workforce in these countries<sup>10</sup>.

The lack of availability of specialist training in developing countries has been cited as a contributing factor to migration, and doctors who pursue specialist training in industrialized countries often do not return to their home countries. In-country or regional specialist medical training has been proposed as a means to address this problem<sup>12</sup>.

Australia has played an important role in supporting both undergraduate and postgraduate medical education in the Pacific over a number of decades, both at the University of Papua New Guinea (UPNG) School of Medicine and the Fiji School of Medicine (FSM). These activities have been described in detail<sup>9, 13-16</sup>. In 1998, postgraduate training was established at FSM in order to address the shortages of specialists in the Pacific<sup>9, 13</sup>. The postgraduate training programs at FSM deliver Diploma and Masters in Medicine (MMed) training in Obstetrics and Gynaecology, Internal

Medicine, Child Health, Anaesthesiology and Surgery, and were established through funding from the Australian Agency for International Development (AusAID), supported by specialist advisors from Australia and New Zealand. After a few years, it became apparent that many graduates of these programs were migrating, mostly to Australia and New Zealand. Concern has previously been raised about the migration of doctors from Fiji, including postgraduate trainees<sup>9</sup>. This study was designed to document the overall outcomes of the first 7 years of the specialist training programs in Fiji, with a particular focus on public sector retention and migration.

## Methods

FSM records were used to compile a list of enrollees in the postgraduate specialty training programs between 1997 and 2004. 120 students who had enrolled and had obtained at least a diploma from FSM (107) or elsewhere (13) were included. The specialist coordinators reviewed and verified the completeness of the lists and, for each enrollee, provided information on the home country (defined as country of permanent residence at time of enrolment), gender, years of Masters training, and where and in what capacity the candidates were working as of 1 February 2005. Coordinators were able to name a current working location for all enrollees with reasonable certainty. For enrollees who were identified as having migrated to Australia or New Zealand, state or national medical registration details were checked, with details confirmed in 19 of 21 cases. The locations of doctors working in Fiji were confirmed through external sources in 38 of 39 cases. The coordinators' impressions of working location agreed

with external sources in all cases. Developed country migration was classified as temporary or permanent based on the judgement of the specialist coordinator.

Data were entered in EXCEL and analysed using Epi-info<sup>17</sup>. As all data are categorical, statistical comparisons were made using 2-tailed uncorrected chi-square calculations or 2-tailed Fisher-exact calculations where the expected value of a cell was less than 5.

These data were collected as part of a larger, qualitative study on migration in order to locate and select individuals for in-depth interviews. The study was approved by the Fiji National Ethics Review Board and the James Cook University Ethics Committee (Townsville, Australia).

## Results

The specialist training programs at the Fiji School of Medicine (FSM) award a Diploma after successful completion of the first training year, and trainees who perform well are eligible to enrol in the next 3 years of the Masters in Medicine (MMed). Of the 120 enrollees who had undertaken training by early 2005, 65 (41.5% female) were from Fiji ("Fiji enrollees") and 55 (30.9% female) were from ten other Pacific Island nations or American Samoa ("Regional enrollees") (see Table 1).

### Fiji enrollees

Of the 65 Fiji enrollees, 7 were current MMed students and 58 were "graduates", sixteen with an MMed and 42 with a Diploma only. Of the 58 graduates, 23 were employed in the "public sectors" (this includes government hospitals, the Fiji School of

Medicine and UN agencies). Seven were in private practice in Fiji, and 3 were working in American Samoa. Three were believed to be temporarily in Australia or New Zealand undertaking further medical training, while twenty two were believed to have migrated permanently, including 14 to Australia, 5 to New Zealand, and one each to Canada, the USA and the UK. The combined permanent loss to Australia and New Zealand, the major supporters of the establishment of the postgraduate training program, represented 32.8% (19 of 58) of the Fiji output of the postgraduate programs. As of early 2005, more graduates were permanently or temporarily in developed countries (25) than were working in the public sectors in Fiji (23) (see Table 2).

The main racial groups in Fiji are indigenous Fijians ("Fijians") and "Indofijians" (Fiji citizens of Indian ancestry), comprising 51% and 44% of the population respectively. Indofijians were especially affected by the Fiji coups of 1987 and 2000, and historically have had higher migration rates than Fijians. Only one of 20 Indofijians had completed an MMed degree compared to 14 of 41 Fijians ( $p=0.013$ ). Indofijian graduates were significantly more likely to have migrated permanently (64.7%) compared to Fijians (27.0%) ( $p=0.008$ ), and they were significantly less likely to be working in the public sectors (17.6%) as compared to Fijians (48.6%) ( $p=0.03$ ).

### Regional enrollees

American Samoa and ten English-speaking Pacific Island nations have sent specialist trainees to Fiji (see Table 3). Of the 55 regional enrollees, 36 (65.5%) had left training with a Diploma, nine were MMed graduates, and 10 were

current MMed students (see Tables 1 and 2). The regional countries have sponsored between one and eight enrolees each (see Table 3), with five nations only sponsoring candidates to the Diploma level.

Of the 45 regional graduates, 37 were either in the public sectors in their home countries (36) or employed at the Fiji School of Medicine (one). Three had migrated permanently to a developed country. One was temporarily training in Australia, two were in Fiji and two were in private practice in their home countries. These results compared favourably to the experience in Fiji, where only 39.7% were working in the public sectors (OR 7.04 for regional public sector "retention",  $p < 0.0001$ ) and 37.9% had migrated permanently to a developed country (OR 8.56 for Fiji migration,  $p = 0.0002$ ) (see Table 2).

## Discussion

The postgraduate programs at the Fiji School of Medicine have had mixed results. While good retention rates to date for regional graduates have already led to positive impacts on specialist numbers, movement of individuals between the Pacific Islands is well-established,<sup>7</sup> and in the future, regional enrolees may move to other Pacific Island nations, especially to former and current US jurisdictions where salaries are higher.

In Fiji itself, it is promising that as of early 2005, 43 of 65 enrolees were still either in the Pacific or temporarily overseas, including 23 graduates and 7 current students in the public sector. These doctors in most cases have been trained to a higher standard than would have been possible without the programs. Ten of 16 MMed graduates

were currently working in the public sectors in Fiji, compared to only five of the many Fiji citizens who have successfully completed specialist training abroad. This has tripled the number of specialists with formal full postgraduate qualifications. Despite this, migration to developed countries has continued at substantial levels and remains a major threat to success of the programs.

There are a number of reasons why retention may be better for regional graduates than for those from Fiji. In Fiji, postgraduate trainees continue working in established public service posts, allowing them to undertake training as a part of a decision-making process about their careers, with minimal disruptions to their lives. Participation in a training program developed through support from Australia and New Zealand, especially if overseas attachments are included, may make graduates feel more confident to migrate, and the Australasian orientation to their training may make them more attractive to employers in these countries. The coup of 2000 is also likely to have influenced some decisions to migrate.

For regional enrolees, on the other hand, an international move for further training is a major commitment sponsored at considerable cost by one's home nation, and most doctors would be expected to feel a moral if not practical obligation to return home following training. Also, if a doctor decides to leave his or her home nation to pursue postgraduate training, it would make more sense to try to undertake their training in the intended country if they intend to migrate, but to go to FSM if they don't intend to migrate.

This study has some important limitations. Permanence of migration could not be established with certainty, and was based on the judgement of the specialist coordinators. Another major limitation is the short time (7 years) that the programs have been in existence, although early review allowed the whereabouts of almost all enrollees to be established with certainty. Clearly, the true impact of the postgraduate programs will not be apparent until many more years have passed.

Data on the outcomes of specialist training programs in other developing countries are limited<sup>15, 18-21</sup>. Compared to studies in other countries, our study covers a shorter period of time, but coincides with a recent period of increased global migration with nearly complete follow-up and a focus on retention and migration. Of particular relevance is the experience at the University of Papua New Guinea, where a 2004 article reported that out of 132 local clinical specialists trained since 1975, 71% had been retained in the public sector<sup>15</sup>, which is higher than in Fiji. Of concern, 5 of 9 migrants had left between 2000 and 2004. Of greater concern, by 2006 “brain drain” was being reported in the medical literature as a major issue for all PNG doctors, with at least 65 PNG doctors working overseas, 50 in Australia and 15 in other Pacific countries<sup>22</sup> (there were reported to be 275 doctors in PNG in 2000<sup>6</sup>).

Australia, along with New Zealand has played a vital role over several decades in supporting both undergraduate and graduate medical education in the Pacific, and it is hoped that they will continue to do so. Therefore it is of particular concern that to date, the medical workforces in Australia and New Zealand have been major

beneficiaries of the Fiji postgraduate specialist programs that they helped to set up. It could even be argued that these programs have served as specialist training sites for these two countries. This was never the intent of those who conceptualised and established the programs, and future development aid to the Pacific should be planned to avoid donor countries becoming major beneficiaries of their own overseas aid at the expense of the countries they are trying to assist. Australia and New Zealand clearly need to address their own shortages of doctors as well as adhering to ethical recruitment standards<sup>23, 24</sup>.

An important consideration is whether our experience in the Pacific has applicability to other developing countries. Pacific salaries, while low, are generally felt to be “liveable”, unlike in much of the developing world. The living environment in the Pacific is, for the most part, safe, though with some recent political upheaval. Postgraduate training programs in more impoverished and/or less stable countries may experience higher losses to migration. Despite these observations, our study suggests that in-country or regional specialist training probably offers retention advantages compared with developed-country training.

Specialist workforce shortages in many developing countries are acute, and training “pipelines” last many years. Therefore, the short and medium-term outcomes described in this study may be of interest to countries with urgent needs. Our experience in the Pacific should serve as a cautionary note to developing countries that are considering establishing postgraduate training programs, as well as to the donor nations considering funding these programs.

In summary, postgraduate training at the Fiji School of Medicine has produced real benefit tempered by substantial losses of graduates to migration. Clearly, the reasons for dissatisfaction with working in the public sector in Fiji need to be addressed. Qualitative studies may have a role in further defining the factors underlying migration and retention.

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Table one: Qualifications awarded by the Fiji School of Medicine 1998 – 2004 (including Anaesthesia 1997<sup>a</sup>)

	Fiji		Other Pacific Islands		Total	
	Diploma	MMed <sup>b</sup>	Diploma	MMed <sup>b</sup>	Diploma	MMed <sup>b</sup>
Anaesthesia	10	2	17	0	27	2
Internal Medicine	12	5	8	2	20	7
Obstetrics and gynaecology	4 (+10) <sup>c</sup>	3	10	4	14 (+10) <sup>c</sup>	7
Paediatrics	15 (+3) <sup>c</sup>	3	8	0	23 (+3) <sup>c</sup>	3
Surgery	11	3	12	3	23	6
TOTAL	52 (+13) <sup>c</sup>	16	55	9	107 (+13) <sup>c</sup>	25

<sup>a</sup>Only Anaesthesia Diplomas were awarded in 1997

<sup>b</sup>All enrollees with an MMed (Masters) qualification have also been awarded a Diploma at the Fiji School of Medicine or elsewhere

<sup>c</sup>Ten OBGYN and three paediatrics enrollees who entered MMed (Masters) training had been awarded diplomas elsewhere

Table two: Enrolees in postgraduate specialist training at the Fiji School of Medicine, 1997 - 2004: characteristics and outcomes

	Regional (n=55)	Fiji (n=65)
Females	17 (30.9%)	27 (41.5%)
MMed (Masters) graduates	9 (16.4%)	16 (24.6%)
Diploma graduates <sup>a</sup>	36 (65.5%)	42 (64.6%)
Current MMed student	10 (18.2%)	7 (10.8%)
Graduates Only (excluding current students)		
	Regional (n=45)	Fiji (n=58)
Public sectors <sup>b</sup>	37 (82.2%)	23 (39.7%)
Private practice - home country	2 (4.4%)	7 (12.1%)
Pacific Is outside home country	2 (4.4%) (both Fiji)	3 (5.2%) (all American Samoa)
Temporarily in developed country	1 (2.2%)	3 (5.2%)
Permanent developed country migrant	3 (6.7%)	22 (37.9%)

<sup>a</sup> Includes ten OBGYN and three paediatrics enrollees who entered MMed (Masters) training after being awarded diplomas elsewhere

<sup>b</sup> Includes the Fiji School of Medicine, UN agencies, and government employees at public hospitals

Table three: Total postgraduate enrolment at the Fiji School of Medicine by country, plus demographic country data

Study data		UNICEF data <sup>25</sup>			Joint Learning Initiative data <sup>6</sup>	
Country	Total Enrollees / MMeds)	Population (x1000) <sup>1</sup>	Per capita GNI \$US <sup>1,2</sup>	Under mortality /1000 <sup>1</sup>	# of doctors (doctor density per 1000 population)	Per capita health spending \$US
American Samoa	4 / (1)	70 <sup>3</sup>	-	-	-	-
Cook Islands	3	18	-	21	-	-
Federated States of Micronesia (FSM)	8 / (1)	109	2090	23	64 (0.60) <sup>d</sup>	172
Kiribati	8	88	880	49	24 (0.30) <sup>b</sup>	40
Marshall Islands	1	53	2710	66	24 (0.47) <sup>d</sup>	190
Palau	4 / (1)	20	7500	28	20 (1.09) <sup>b</sup>	426
Samoa	7	178	1600	24	120 (0.70) <sup>c</sup>	74
Solomon Islands	8 / (3)	477	600	22	54 (0.13) <sup>c</sup>	40
Tonga	6 / (2)	104	1490	19	35 (0.34) <sup>e</sup>	73
Tuvalu	2	11	-	51	-	-
Vanuatu	4 / (1)	212	1180	38	20 (0.11) <sup>a</sup>	42
TOTAL REGIONAL	55 / (9)					
Fiji	65 / (16)	839	2360	20	271 (0.34) <sup>c</sup>	79
TOTAL	120 / (25)					

<sup>1</sup>based on 2003 data from UNICEF

<sup>2</sup>GNI = gross national income \$US in 2003

<sup>3</sup> <http://education.yahoo.com/reference/factbook/aq/popula.html> (July 2003 estimate for

American Samoa: 70,260)

<sup>a</sup> 1997; <sup>b</sup> 1998; <sup>c</sup> 1999; <sup>d</sup> 2000; <sup>e</sup> 2001