

Medical postgraduate education in child health in Papua New Guinea

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Introduction

John Biddulph was a pioneer of medical education in Papua New Guinea. He saw the training of Papua New Guineans in the various tiers of the health system as the key to improving the health of the population. As Health Department Specialist and University Academic, he was interested in all areas of medical training, but his main interest was in the area of maternal and child health. Being present at the birth of the Medical Faculty of the University of Papua New Guinea (UPNG), and being heavily involved in undergraduate and postgraduate training, his articles on the medical workforce development provide an important documentation of the first 25 years of the Medical Faculty (1-3). Within the area of maternal and child health itself, John Biddulph was heavily involved at a number of levels of medical education. He was instrumental in helping to set up the Post-Basic Nursing Course in Paediatrics (4) and taught in this course until his retirement. He was involved in the Health Extension Officer teaching program, visiting the College of Allied Health Sciences in Madang on an annual basis to teach in the maternal and child health component of the course. The 7th edition of the textbook *Paediatrics for Health Extension Officers and Nurses*, now co-authored by the Chief of Paediatrics Dr Bob Danaya, was published in 1999 (5). He was instrumental in the introduction of standard treatments and in the development of the Paediatric Standard Treatment Book (6). His book *Paediatrics for Medical Officers*, which was expanded into the highly prized *Paediatrics for Doctors in Papua New Guinea* by Shann and Biddulph, will have its 2nd edition published in 2001 (F. Shann, J. Biddulph and J. Vince, book in preparation).

The hallmarks of John Biddulph's teaching were clarity, simplicity and thoroughness, and his ideas about teaching methods and assessment were years ahead of their time.

Prof. Biddulph was in the forefront of the move to introduce postgraduate training programs into the Medical Faculty. The Diploma in Child Health (DCH) and the Diploma in Gynaecology and Obstetrics (DGO) were the first of the diploma programs (first graduates in 1976) and the Master of Medicine (MMed) in Child Health and the MMed in Surgery were the first Masters programs (with the first graduates in 1979). From the outset the postgraduate programs in child health were intended to provide the candidates with experience across a wide range of paediatrics and a knowledge of important aspects of both hospital and community paediatrics. The stated aim of the DCH course was, and remains, 'to allow graduates to effectively support the general paediatric services for a province of PNG as well as manage the usual paediatric problems'. The aim of the MMed course was, and remains, 'to produce competent paediatricians who can not only provide paediatric specialty services to a hospital and province but are also able to support all aspects of child health within the province and region' (7).

This paper aims to document the outcome of the University of Papua New Guinea medical postgraduate programs in Child Health.

Information sources

I have drawn on a number of sources for this information: firstly, Prof. Biddulph's own analysis of the data up to 1989 (3); secondly, the records of postgraduate candidates kept in

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the Division of Paediatrics; and thirdly, the combined memory banks of senior personnel in the Paediatric Division of the Port Moresby General Hospital.

General historical overview

The first 16 Papua New Guinean doctors graduated from the Fiji Medical School between 1951 and 1963. A further 36 graduated from the Papuan Medical College between 1964 and 1970. UPNG Faculty of Medicine graduated its first doctors in 1973. Up to the end of 1989, 224 Papua New Guineans, 62 Pacific Islanders and 32 doctors of other nationalities had graduated from UPNG. By the end of 1999 (graduating in 2000) the figures were 463 Papua New Guineans, 97 Pacific Islanders and 51 of other nationalities, a total of 611.

The first UPNG medical postgraduates – with DCH and DGO – graduated in 1976. Diplomas in Ophthalmology (DO), Anaesthesiology (DA) and Otorhinolaryngology (DORL) were subsequently offered. 1979 saw the first graduates from the MMed in Child Health and in Surgery, and graduates in Internal Medicine (1982), Ophthalmology (1984) and Obstetrics and Gynaecology (1986) followed. By 2000, UPNG had graduated MMed candidates in the additional disciplines of Anaesthesiology, Otorhinolaryngology, Psychiatry and Dermatology. Candidates were also enrolled in the disciplines of Medical Imaging, Cancer Medicine and Rural Health. In the area of Community Medicine and Public Health, UPNG has for several years offered a Diploma in Community Health which is open to postgraduate health workers. The Master of Community Medicine degree, a degree by thesis, has been replaced by the Master of Public Health, currently run jointly with the University of Queensland.

Research projects have been part of the DCH program since its inception. Initially such projects were not incorporated in the Masters programs but in 1991 the bye-laws were changed to make such a project mandatory for the Masters courses in all disciplines.

Child health

Postgraduate training in Child Health consists of a minimum total of 4 years. The first year is the DCH year, and is usually carried out in one of the base or provincial hospitals. Candidates are normally required to obtain a credit grade in the DCH in order to progress to the Masters program. The first part of the MMed, of 1 year duration, consists, in common with that in other disciplines, of three components: a common core basic medical sciences course, a specialty core course in basic medical sciences as applied specifically to Child Health, and an assessment of professional performance at registrar level. A pass in all three components is required to progress to the MMed Part 2. Of the 2 years in the Part 2 (exemption from 1 year of the 3 being granted for the DCH year), one year has usually, but not always, been spent overseas.

The numbers and nationalities of the successful postgraduates in Child Health are shown in Table 1. By graduation day of 2000, 63 doctors had obtained the DCH, of whom 34 had obtained MMed (Child Health). 7 of those with DCH are currently in the MMed program. Of the 52 Papua New Guineans with DCH, 29 have completed and 5 are currently enrolled in the MMed program. Of the 6 Solomon Islands

TABLE 1

POSTGRADUATES IN CHILD HEALTH TO GRADUATION 2000		
Nationality	DCH	MMed
Papua New Guinean	52 (+3)	29 (+5)
Pacific Islands		
Solomon Islands	6 (+1)	3 (+2)
Vanuatu	1	1
Western Samoa	1	1
Federated States of Micronesia	1	
Others	2	
Total	63 (+4)	34 (+7)

Numbers in parentheses are those currently in the program
DCH = Diploma in Child Health
MMed = Master of Medicine

DCH graduates, 3 have the MMed and 2 are currently in the program. 1 Vanuatuan and 1 Western Samoan doctor have successfully passed the MMed course.

The current occupation of the postgraduates is shown in Table 2. 11 students are enrolled in the DCH/MMed in 2000. Of the 34 MMed (Child Health) graduates only 2 are currently in private practice. Both of these spent some years as government paediatricians before opting for private practice. Another who went into private practice immediately after obtaining the MMed is currently in the process of joining the public sector. At least 2 of the senior paediatricians have spent a short time in

private practice earlier in their careers. A further 2 MMed postgraduates are currently working in Australian hospitals. 22 of the 34 (65%) are in active clinical practice as paediatricians in Papua New Guinea or within their own country. A further 2 are staff of the Division of Child Health at UPNG. 1 who has worked in a number of hospitals as a paediatrician, and has also worked as a hospital administrator, is currently in between jobs. 2 MMed postgraduates are with the Department of Health in areas of community maternal and child health, 1 is Director of Medical Services at a major hospital, and 1 is in a training program in Community Child Health in Australia. Thus, of the 34 successful MMed

TABLE 2

CURRENT (GRADUATION 2000) OCCUPATION OF POSTGRADUATES IN CHILD HEALTH

Occupation	DCH (n=26)	DCH + MMed (n=41)	Total (n=67)
Training DCH/MMed			
Papua New Guinea	3	5	8
Pacific Islands	1	2	3
Total	4	7	11
Paediatric practice			
Government PNG	1	17	18
Government Pacific Islands	1	5	6
University	-	2	2
Overseas	1	2	3
Community maternal child health	-	2	2
Health administration	1	1	2
Public health	1	-	1
Academic public health	1	-	1
Training in community child health	-	1	1
General duties	7	1	8
Private practice PNG	3	3*	6
Private practice Pacific Islands	1	-	1
General medical officer overseas	1	-	1
Unknown	2	-	2
Deceased	2	-	2
Total	22	34	56

* 1 of the 3 is currently in the process of entering the public system

DCH = Diploma in Child Health

MMed = Master of Medicine

graduates 28 (82%) are currently working (or training) within the Papua New Guinea public health sector (including UPNG Faculty of Medicine), or within the public health sectors of their respective countries.

Only 6 (18%) of the 34 MMed graduates are women. This is actually a high proportion in comparison to other disciplines and is a reflection of the low proportion of women who have been entering the UPNG undergraduate medical course. There are, however, more women currently in the training program, and it is predicted that there will be a further 5-6 female graduates within the next 4 years.

The distribution of those working as Health Department clinical paediatricians throughout the country is shown in Table 3. 7 are based in the Southern Region, 5 in each of Momase and Highlands Regions, and 3 in the Islands Region (with 1 more in the process of transferring to the region). Paediatricians are currently posted to 12 of the 20 provinces.

Of the 20 living DCH graduates (Table 2) who have not continued in the MMed program, 4 have moved into private practice, and 12 (60%) are known to be currently working within the national health system in PNG or in their own countries.

Further higher qualifications

Since graduating with MMed (Child Health) 1 paediatrician has obtained the Masters in Tropical Child Health from the University of Liverpool, 1 has a PhD from the University of Queensland, 1 is expected to have the MPH from the University of Queensland by the end of 2000 and a fourth is expected to have an MD from UPNG by the end of 2000 or early in 2001. A fifth graduate is currently studying for the Master in Community Child Health from the University of Queensland and a sixth has submitted a thesis for the Master of Community Medicine (UPNG).

Subspecialty training

The major causes of childhood mortality and morbidity in Papua New Guinea have been, are, and are likely to remain for the foreseeable future, neonatal deaths (infection, perinatal asphyxia, prematurity and intrauterine growth

TABLE 3

DISTRIBUTION OF PAEDIATRICIANS IN
GOVERNMENT CLINICAL PRACTICE

Region/Location/Province	No
Southern	
PMGH (NCD)	4
Popondetta (Oro)	1
Alotau (Milne Bay)	1
Kerema (Gulf)	1
(Central)	-
(Western)	-
Momase	
Lae (Morobe)	3
Madang (Madang)	1
Wewak (East Sepik)	1
(West Sepik)	-
Islands	
Rabaul (East New Britain)	1
Vunapope (East New Britain)	1
Kimbe (West New Britain)	1
Kavieng (New Ireland)	-
(Manus)	-
(North Solomons)	-
Highlands	
Goroka (Eastern Highlands)	2
Kundiawa (Simbu)	1
Mount Hagen (Western Highlands)	2
(Southern Highlands)	-
(Enga)	-

PMGH = Port Moresby General Hospital

NCD = National Capital District

retardation) and the common infectious diseases (pneumonia, malaria, gastroenteritis, meningitis and tuberculosis). Malnutrition commonly complicates all of these infections. The major thrust of postgraduate training has therefore been to produce competent and conscientious general paediatricians with a wide base of both clinical and community child health knowledge through the MMed program. It is, however, accepted that there is a need for increased knowledge and ability in some subspecialty areas and that some individuals

may wish to pursue particular interests. Two paediatricians have had further training in paediatric cardiology, which has had a beneficial impact on the diagnosis and selection of children with congenital heart disease for surgical treatment. One paediatrician has completed training in paediatric respiratory medicine, and one has spent one year training in paediatric endocrinology. One spent a year in paediatric gastroenterology and several have spent short-term attachments in paediatric ultrasound. The skill base within the clinical paediatric work force has therefore been considerably enlarged. Furthermore, as already noted, several paediatricians have developed or are in the process of developing further skills in the areas of community child health and health administration.

Continuing medical education

One of the major challenges for all health workers is to maintain the high standards they have acquired at the time of completion of their programs. The acquisition of a postgraduate degree needs to be seen as one (albeit major) landmark in the lifelong development of the medical professional. Continuous medical education (CME) is not only current jargon but also very important. In this as in other areas, John Biddulph was well to the fore in planning and implementation. He was instrumental in establishing the Paediatric Society of Papua New Guinea and in taking the Society to membership of the Association of Paediatric Societies of the South-East Asian Region (APSSEAR) and the International Paediatric Association (IPA), encouraging and facilitating Papua New Guinean paediatricians to participate in both national and international meetings.

There is perhaps a tendency to believe that CME is something delivered in packages to the individual, rather than something sought out by the individual himself or herself. With the rapidly increasing availability of information technology, it should be possible for health professionals to access knowledge from a wide array of sources. Whilst the meetings of the Paediatric Society of Papua New Guinea and the Medical Society provide a focus, and whilst the Paediatric Society and the Division of Child Health of the Faculty of Medicine and

Health Sciences may be able to help in providing information bases, it is important that individuals take responsibility for their own CME.

Conclusions

There can be little doubt but that the vision of John Biddulph and others, both national and expatriate, of successful postgraduate training in child health has to a large degree been realized. All but three of the specialist paediatricians currently employed by the Health Department are national doctors. Two of the three UPNG positions are held by national paediatricians, one with, and one likely to obtain, a higher research degree. The posts of Senior Health Department Paediatricians have been held by Papua New Guineans for the last 10 years.

In an ideal world, there would be adequate funding and support for at least two paediatricians in each province – to adequately fulfill the multiple roles of the paediatrician as hospital caregiver, community child health leader, educator, and child health advocate and information gatherer. There would also be adequate funding and resources to support the further development of sensible subspecialist services. Such services include not only the essentially clinical areas of paediatrics but also areas such as care of the handicapped, and services for victims of child abuse. Since we live in a less than ideal world, however, it is important to plan realistically. Whilst the Health Department planning targets for paediatricians at the start of 2000 are close to being realized, there is a need to review these targets in relation to the needs of the country and of various sections of the community. Eight provinces are currently without paediatricians. There is inevitably a slow attrition rate and certainly there will be a continuing need for postgraduate training programs in child health in the foreseeable future. These programs will need to maintain focus on the common problems of childhood whilst at the same time taking account of new developments in paediatrics and child health.

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