Guest Editorials

Learning by doing: the Pacific option for medical training

JIMIONE I SAMISONI, MB, BS, PHD *

Healing was more an art than science during the early days of the health care profession. Apprenticeship to healers or physicians who were highly respected and revered members of the community because they could heal the sick, cast out demons and overcome evil spells. It was the only way to become a doctor. To be a doctor therefore was an "on the job" training experience where learning was primarily an active process of doing whatever was necessary to get the job done.

Healing became less of an art and more a science due to advancing knowledge of health. Medical training programmes were offered by institutions specifically set up for the purpose of educating students to acquire the scientific knowledge deemed necessary for a better understanding of the underlying principles which explain the biomedical concepts of diseases and sickness, and how these could be diagnosed and managed scientifically.

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The separation of didactic class room teaching sessions, which were meant to provide students with such knowledge, from clinical "hands on" practical activities and experiences, was a major change in the new approach. Students were expected to know, understand and distinguish the normal from abnormal before they could confront the real world problems of illness and disease.

Throughout the first half of their training therefore, students became submerged in an environment where they passively absorb didactically delivered lectures from different disciplines that narrowly project their own interests and view points. Individual disciplines became separate departments that often regard themselves as mini-institutions as well. The only time when discipline experts came together and tried to integrate their activities was when they fought for more resources or a bigger slice of the curriculum cake.

The demarcation of disciplinary interests was so strong that the semi-permeable cell membrane became a virtually impenetrable one as far as the interests of physiologists and biochemists were concerned. Anatomists insist that completely dissecting cadavers from the hairs of the skin to the marrow inside bones as absolutely essential for the acquisition of basic knowledge in their discipline. It was not surprising therefore that student failure rates in medicine began to escalate, and even less surprising that most of these failures occurred during the first half of the courses. The graduates became scientists who could not see people between the anatomy, biochemistry, physiology and the formulae of systems and organs.

Parochialism was not much better in the clinical disciplines as specialization took off with the creation of sub-specialties. Academics and clinicians became so highly specialized that many of them would only deal with specific systems or individual organs. Little wonder therefore that a sick patient was regarded usually as a diseased entity or deceased organ, and seldom as an individual, let alone someone who also had a family or community. Specialists are laughing at the concept of a biopsychosocial being, and all the way to the bank.

On that background of how doctors were produced, Dr William McGregor introduced his three year, integrated, practically oriented, "hands on, learning by doing" apprenticeship type programme at the Suva General Hospital, and graduated the first three Native Medical Practitioners in 1888. The legacy of that undertaking is the Fiji School of Medicine (FSM), which has now graduated a total of just over 1,000 doctors by the end of 1996.[1]

Subsequent endeavours to improve Dr McGregor's vision failed. The progressive lengthening of the course to four, five and finally seven years, by expanding its pre-clinical components, may have produced doctors with better understanding of the biomedical basis for disease and ill health. But mounting student failure rates during the pre-clinical stages of their studies meant fewer doctors graduating overall, and an escalating shortfall of human resources in health for the Pacific. The failure rate was exacerbated by the production of more doctors who cannot see the person for the organs and the money.

The challenge for reform was confronted by McMaster University in 1969 when it developed and formally introduced the first problem based learning (PBL) curriculum and integrated training approach for medical education, including the early exposure of students to clinical practical work.

**Principal, Fiji School of Medicine, Private Bag, Suva, Fiji*

Active and participatory learning by students rather than the passive absorption of teaching by tutors was the major goal of that approach which was in fact, "learning by doing".

The introduction in 1991 of FSM's own PBL curriculum[2] and integrated training programme encountered a lot of criticism and active opposition, perhaps because it was based on a similar programme which the Pacific Basin Medical Officers Training Program (PBMOTP) introduced in 1987[3,4]. Both programmes relied heavily on early introduction to and involvement with patients, self and peer directed learning, active participation, and the practically oriented, "learning by doing" format.

The first cohort of graduates from FSM's new programme came out last year and are now working as interns. Like the PBMOTP graduates, they are doing what they have been specifically educated and trained to be; a responsible health professional, a competent clinician, an effective communicator, and a life long learner.

Opponents of PBL and detractors of the learning by doing approach have argued in the past that anyone can be taught to do anything if they do it long enough and often enough in accordance with the "monkey see, monkey do" philosophy. Our argument is that PBL produces doctors who think.

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Many of these sceptics have since changed their opinions after assessing the performances of the new Pacific graduates. We are surprised however, that they should be surprised by the new our graduates are performing as interns. They obviously did not heed the wise words of the ancient educator and philosopher who stated a long time ago, "I hear and I forget, I see and I remember, but I do and I understand". This approach will take the Pacific beyond the 21st Century.[5,6,7,8]

References

1. Lander H and Miles V. *The Fiji School of Medicine: A Brief History and List of Graduates.* University of New South Wales, Sydney; 1992.
2. Samisoni, JI. Old school, new programme: the Fiji School of Medicine 1994. *Pacific Health Dialog,* 1994; 1(2):20-24.
3. Dever, G. An alternative physician training program in the Pacific. *Pacific Health Dialog,* 1994; 1(1):71-73.
4. Finau, SA. Pacific health: a review to train new leaders. *Asia-Pacific Journal of Public Health,* 1992/93; 6(2):46-53
5. Ireland J, Powis B, Lititamu N. Roots and wings of healthy Islands: the history and potention of environmental health in the Pacific. *Pacific Health Dialog,* 1996; 3(2):259-265.
6. Han, ST. New horizons in health: a perspective for the 21st Century. *Pacific Health Dialog,* 1996; 3(2):253-258.
7. Finau, SA. Oral health and personnel needs in the Pacific. *Australian Dental Journal,* 1996; 4(1):53-58.
8. Kinnear, S, *et al.* Post-graduate medical training for the Pacific: the next step. *Pacific Health Dialog,* 1996; 3(1):60-64. □

Is it really a man's world?

PERRY HEAD *

In Micronesia, the success of women graduates in the PBMOTP program contrasts dramatically with their current level of access in government ...

On 14 December last year I had the privilege of attending the final graduation of the Pacific Basin Medical Officers Training Program (PBMOTP) in Pohnpei. It was a time of mixed emotions for all present, with the mood swinging between the elation of graduation and the sadness of separation.

After ten years of blood, sweat and tears the PBMOTP was coming to a close, having fulfilled its mandate to rectify a chronic shortage of indigenous doctors in Micronesia. The success of the PBMOTP and its unique approach to training doctors and other qualified health workers will be well documented in regional and international medical literature, and I will leave such analysis to the experts. The purpose of this brief observation is to note an interesting and related outcome of the PBMOTP's maturation, relevant to the role of women in Micronesia.

With only a few loose ends to tie up, the PBMOTP in Pohnpei, a program of the John A. Burns School of Medicine at the University of Hawaii, has produced some 68 fully qualified Physician Graduates. A final three candidates are expected to graduate this year. Of the 68 graduates to date, 31 are female, or an impressive 46% of all Physician Graduates. More noteworthy than this, of the 23 graduates in 1996,

* *Perry Head is Australian Ambassador to the FSM and the Micronesian region. He can be emailed at australia@mail.fm. Address given in 17 March 1997*

14 were female, accounting for an impressive 61% of graduates. This is a remarkable achievement in a region were women still suffer a wide range of formal and informal barriers and are largely excluded from public office. It bodes well for women in terms of access to educational opportunities.

What also stood out on a typically hot and steamy Saturday morning in the PIC's auditorium, was not just the quantitative achievement of the graduating class, but the qualitative achievements as recognized by the Program Director, Dr Greg Dever. When it came time for the roll-call of honor - the recognition of the top performances in the year - I found myself ideally seated on the VIP plastic chairs to observe an interesting phenomenon. To my right the receiving party of dignitaries were all august men of high office. To the left the prize-winners came forward. And yes, every award for academic excellence was won by a female graduate.

The successful graduation of all these doctors, men and women, is a marvelous achievement. The thought of even attempting a medical degree is enough to scare the average student away, but these determined individuals have applied themselves in the most difficult of conditions, often far from home and separated from family and loved ones in a culture where such bonds are strong and often demanding.

Of special note for the most outstanding achievement is Dr Janice Ngirasowei, from Palau, who won the award for Top Student over the course of her five-year program, and collected another award for Graduation with Distinction in her final year. Another standout performance came from Dr Lily Shrew, of Kosrae, who also Graduated with Distinction in her final year.

A focus of the PBMOTP program has been on Community Health with an emphasis on primary health care. The award to Dr Selerina Malsol of Palau for the top Community Health Project was also therefore most noteworthy. I should not neglect to mention that the class spirit award, named after the late and inspirational Paul Auputiw, was won by Dr Iuvale Vimoto, of American Samoa. Iuvale deserves special credit for his boundless enthusiasm, goodwill and outstanding personality (with an appetite to match). His efforts no doubt carried many students through moments of self-doubt.

As I watched these winners deservedly coming forward, I could only think that the future of the Micronesian region was looking up. It occurred to me, however, that if women were making such an outstanding contribution to the medical community (I dare not say fraternity!), then surely here also is a wealth of local talent that is currently being excluded from the mainstream of formal political activity. Could anyone dispute that the quality and tone of political life across the region would not be improved if women had a stronger voice and greater representation in the various parliamentary forums? Are the cultural and social barriers to achieving this too great to address?

There are not many countries which could point to parity between men and women in terms of parliamentary representation, and the situation in Australia too is far from ideal. Women have, nonetheless, made significant advancement in recent years, holding numerous senior party positions, including premierships and ministerial portfolios. Women have been boosting their numbers at almost every election over the past two decades and political life in Australia is all the richer for it.

The record in Micronesia, (as elsewhere in the Pacific), it has to be said, is pretty dismal. Of the three independent nations that I cover as Ambassador of Australia - Marshall Islands, Federated States of Micronesia, and Palau, the grand total of women represented in the national legislatures is only one. Sandra Pierantozzi, newly elected Senator in Palau, is the sole female voice. Hailing from the private sector, I congratulate Sandra on her recent victory. She will undoubtedly continue to contribute to public life in Palau in her unique way. There are also a few female governors, mayors and legislative members at state and local level in all three countries and I do not mean to overlook them.

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At the national level, however, including the elected executive, the sum total of female representation in independent Micronesia is about one out of 81, or a meagre 1.2%! Compare this to the 42% of women who comprise the graduates of the PBMOTP. Even when we include the better-performing Guam and CNMI, the overall percentage of women represented in the broader region rises to only about 5%. The access achieved by women in educational pursuits such as the PBMOTP is clearly not yet translating through to the formal political sphere in Micronesia. Good for the PBMOTP - bad for Micronesia!

Is it just be a matter of time before matters right themselves? I would argue that the region faces such important economic and political challenges that it simply cannot afford to further exclude women from participation at senior decision-making

ing levels. It is not about pushing men aside - it is simply time for some old traditions to make way for the new, or perhaps, to reinterpret some old traditions into a contemporary context.

The economic and developmental challenges facing this region are best left to another forum. It is a badly-kept secret, however, that the productive sectors across Micronesia currently provide an inadequate platform from which to launch the search for genuine self-sufficiency. A painful transition is already upon us. In many instances, the health and education systems are not coping well, exacerbating the flow of peoples to regional population centers such as Guam and Honolulu, and to the US mainland. The hospital systems that many of the PBMOTP graduates will enter will already be under strain.

As we all go down the path of economic reform it is vital for the international community to continue its support. A good way to help lock-in such support will be to actively foster the further inclusion of women in the formal political apparatus that we know as government. Actions speak louder than words. With International Women's Week just concluded, it is prudent to ponder the messages in this issue of *Pacific Health Dialog* from the final graduation of the PBMOTP. □

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Medical education and health reform

G.DEVER AND S.A FINAU

These are peas in a Pacific pod. One is just the other in another form. To reform the health services a new kind of health worker is essential. To undertake appropriate medical education the health service must be amenable to reform. Therefore this issue of PHD has peered into the Pacific pod and described the situation. A new Pacific health worker is socialized to take the region to the 21st century and beyond.

Valerie Hunton, the artist whose work have graced the covers of the *Pacific Health Dialog* ,gave us a sneak preview of the cover for this issue. It was an epiphany: there was medical student Percy Pitiol from Chuuk - a stethoscope around her neck, sitting on a mat, and reading a medical text - embodying all those wonderful elements of the Pacific medical student. Percy, who originally trained as a nurse, graduated to become one of the first women doctors from her island group. We always admired her commitment, quiet dignity, compassion, and her capacity to endure. Two years after graduation, a visiting coordinator of an international physicians' volunteer team specifically stopped in Pohnpei, one jet stop away from Chuuk, to tell me that Percy had impressed the team pediatrician team and that she "really knew her stuff!" I was both please and amused: pleased that she was doing well and amused that expatriate physicians seem to be surprised when the graduates know their stuff!

Of course, Percy will be embarrassed by this attention. Also the artist did not intend for us to recognize, like a photograph, individuals in her paintings. But Valerie Hunton made her point: in her unerringly inciteful way, she got it right when she painted this portrait and again when she selected it for the cover of this *PHD* issue: the Pacific medical student, the new Pacific doctor.

For those of us who are fortunate to be medical educators in the Pacific, the changes in medical education over the last decade have been truly remarkable: the University of Hawaii's Pohnpei project, the WHO Fiji School of Medicine task force, PBL and the University of Newcastle, the Yanuca Island Declaration, the follow-up WHO Meeting on Postgraduate Medical Education for the Pacific, the recent opening of the FSM Pacific Postgraduate Medical Center, and the overall leadership role of WHO and the partner countries in providing the resources to make it happen. The recent story of the medical education in the Pacific is one of challenge, change, innovation, and, as some would observe, triumph.

This issue of the *PHD* tries to capture the excitement of these changes in the descriptive and sometimes lyrical articles by Samisoni, Rogers, Yano, Flear, and Dever, Hunton, and Finau. In terms of medical educational process, Fitzgerald and her colleagues describe how problem based learning was applied to research methodology in Pohnpei and she follows up on some of the subsequent curriculum spin offs in other Pacific rim institutions. This article also links with past *PHD* articles by Pointer[1] and Robertson et al[2] which describe in detail the "hands on" application of such PBL research methodology training described by Fitzgerald. From such efforts come the formats for student self directed research projects which are now appearing such as the lead article in this issue by Malsol and Flear.

One of the exciting changes in Pacific medical education over the decade has been the growing prominence of community health as a serious academic and applied discipline. In the spirit of *Health for All 2000* and the Pacific *New*

Horizons In Health[3], there has been the growing realization that hospital and community-oriented acute and chronic care is not enough and that community health, with its underlying principles of health promotion and protection, is more than just learning about numerators and denominators in school. In a more metropolitan setting at the University of Hawaii, Feletti and Lum, in a follow-up to an earlier article[4], describe the challenges of developing community partnerships in an integrated and multidisciplinary medical educational effort. Flear, in summarizing the evolution of community health training of medical students in Pohnpei, gives practical substance to the summary deliberations and recommendations by Robertson et al of the three *Pacific Conferences on Community Health in Medical Education* held in Pohnpei and Fiji since 1991.

In assessing educational process Wyatt evaluates how select Pacific medical students study .He statistically analyzes the educational performance of students from less than perfect educational backgrounds: some study skills efforts appear to produce more valuable performance outcomes than others.

Several articles in this *PHD* address the educational process which continues after basic health training. In his welcoming remarks at the Third Pacific Basin Medical Association Conference, Pohnpei State Governor Del Pangelinan challenges the Conference participants to question the role of medical associations and encourages them to address the thorny issues of continuing medical education linking CME certification with a process of relicensure.

In keeping with the new technologies, several articles address the content and process of distance medical consulting (DMC) and distance medical learning (DML) in the Pacific. Fochtman et al from the University of Guam describe their experiences in distance education of nurses in Micronesia. Yano and his colleagues from the University of Hawaii, Tripler Army Medical Center, the Fiji School of Medicine, the University of Auckland, and Micronesia describe the first steps in rationalizing the formation of a working DMC and DML network - a proposed Western Pacific HealthNet - linking Pacific medical educational institutions in an effort to connect the island dots across the Pacific. Goldsmith, in an effort to demystify the jargon of the new Internet technology, tells us in plain language how computers and telemedicine can be used by health care workers throughout the Pacific.

Appropriate health workforce have been central to medical education development in the Pacific. Finau advocated that what has been done for doctors can be done for all other category of health workers. Furthermore it can be done anywhere. He and Dever et al implied that this Pacific experience is an innovation in medical education and health reform worthy of global attention and duplication.

The medical educational approach in Micronesia have not only trained health workers but reformed health services in the jurisdictions involved. This was possible because health reform was needed and an implicit purpose . The indicators for health reform includes dietary genocide and the perversity of westernization (discussed by Jackson). Diaz discusses the health crisis in the US Pacific and the futility of throwing money to more of the same. Fallon et al identified maternal deaths in the Solomon Islands as modifiable through health reform and better prepared human resources.

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Braun and Keju-Johnson demonstrate health reform through and by youths to youths in the Marshall Islands. Flear, Dever et al, Futterman-Collier et al and Sadao et al examined various community efforts and evaluation mechanisms of such programs. Sancho and Pepperell et al recount their activities in changing the status quo. All these are early attempts at health reform showing that the time is right when the health workers are willing and appropriately trained.

O'Leary discusses the new public health surveilllance network - and essential and excellent vehicle for education and reform. However will it be shaped by Pacific peoples? This vehicle, like many in the past, may get driven by self-interest. The locus of control must be Pacifican not just rhetoric..

Medical Education and Health Reform in the Pacific are synergetic: that's the stuff of this issue. It has been an exciting decade with more changes to come. Much needs to be done by appropriately prepared human resources. As the newly trained health workforce settles into place and begin to make their mark, we older folks look with exciting anticipation at how the Dr. Pitiols will address these complex issues - characteristically, we suspect, with enduring dignity and compassion.

References

1. Pointer A. Hands on training in the management of primary care facilities: a PBMOTP initiative. *Pacific Health Dialog,* 1994; 2(1): 161-168.
2. Robertson AS, Upson D, Dever G, Tipene-Leach D. Community -based research and medical education : the PBMOTP experience with dengue, leptospirosis, TB and intestinal parasites. *Pacific Health Dialog,* 1996; 3(2): 178-186.
3. Han ST. New Horizons in Health: a perspective for the 21st century. *Pacific Health Dialog,* 1996; 3(2): 253-258.
4. Feletti G, Murry C. Ke Ola O Hawai'i: promoting better health for the underserved. *Pacific Health Dialog,* 1995; 2(1): 155-160. □