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### PERSONAL VIEW

# Building capacity for acute care in developing countries

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### A B S T R A C T

The article provides a 'short journey' to neighbours in the Australasian region to highlight some innovation in health policy, rural health education, and professional teams, in developing countries. The innovations are described and challenges discussed.

**Key words:** developing countries, health policy, rural health education.

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## Introduction

Having initially trained in general practice and now working as an emergency physician, my focus is on building capacity to provide acute care, that is, a primary response for medical emergencies, PRIME. Incidentally, I was able to make a small contribution to the New Zealand PRIME in the 10 years I was in Christchurch.

More recently, I have been engaged in Papua New Guinea for 8 years, so we will go there, and we will visit Sri Lanka and Nepal briefly.

## Innovations in rural care

In most developing countries, 85% or more of the populations live in rural areas and are largely dependent



upon subsistence agriculture. They are in need of health services.

The medical systems in these countries have, to varying extents, been shaped by colonial precedents. They have limited resources and gaps of various shapes and sizes, in part because they cannot do everything that a colonial power once did. It is generally rural peoples who are neglected. Nepal is an exception in that it was never a colony; it is simply very poor.

The disparities can be huge and, if you are inclined to egalitarianism, shocking. For example, although India has been offering first-world surgical services for 'medical tourists' for a couple of decades, it is only just introducing postgraduate general practitioner training. India's 800 million poor find accessing health care difficult or impossible. A hospital I visited in Tamil Nadu had an MRI scanner 10 years before Fremantle Hospital in Australia did. At the same time they use a bamboo rope ladder for window cleaning. The rural poor, meanwhile, may not be able to access any health services at all.

## *Papua New Guinea*

In Papua New Guinea, Australia's closest neighbour, there is not yet a postgraduate general practitioner program. In its formative years postgraduate training was driven by expatriates, mainly Australian and British. They were specialists at the Medical School in Port Moresby, and so focused on their specialties: surgery, internal medicine, paediatrics, obstetrics and gynaecology. The expatriate generalists were in remote regions and would not have been able to set up a postgraduate program at the Medical School even if they had been inclined.

The Australian Agency for International Development, AusAID, has supported the development of the first generalist program since 2002. It is for a Master of Medicine in Emergency Medicine, through the School of Medicine and Health Sciences at the University of PNG. It is generalist training in that it includes rotations through all the major disciplines, with the opportunity to do diplomas in

anaesthesia, child health and reproductive health. However, it is not general practice training in the way we understand and practice it in Australia. Although it is less than a complete training for rural district hospital practice, it is currently the closest there is. The Medical School has also established a Master of Medicine for Rural Medicine, but as yet there have been no graduates.

The Master of Medicine in Emergency Medicine is providing leadership in developing the PRIME in PNG. This specialist program has catalysed the teaching of care of the acutely ill and injured through undergraduate and postgraduate medical, nursing and health extension officer (HEO) training. Health extension officers are trained to a mini-doctor level – primarily for rural practice – although many do not then practice in rural environments.

A number of courses have been introduced and promulgated. These are the Primary Trauma Care (PTC) course, the Emergency Life Support (ELS) course, and a Snakebite Management course, all of which contribute widely to rural care (Figs1,2). An important major innovation is an Advanced Diploma in Emergency Medicine catering for rural healthcare providers, which was developed and provided by Sandra Rennie, the RCS Coordinator in Busselton.

**Primary Trauma Care course:** The PTC course was developed by two anaesthetists, one from South Africa, the other, Marcus Skinner, at the time at Fremantle Hospital. It arose in part out of frustration with the expensive and restrictive American Advanced Trauma Life Support course and the Australasian derivative, the Early Management of Severe Trauma course. The anaesthetists' intention was to write a course that developing countries with limited resources could provide to rural healthcare workers. The course is offered free, and countries are invited to modify it to their own circumstances and resources. It is now run by the Primary Trauma Care Foundation in Oxford, supported by the World Federation of Societies of Anaesthesiologists, and endorsed by the WHO. It has been taken up by more than 35 countries worldwide.



**Figure 1: Primary trauma care instructors in PNG.**

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**Figure 2: Preparing for emergency life support course in PNG.**

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In PNG, starting with Australian and New Zealand instructors, we trained the leading emergency medicine trainees and an anaesthetist to be instructors, assisted them in running courses, trained more local instructors, and then encouraged them to take the course as their own. There have now been more than 50 courses run in PNG and they are getting to ever more remote healthcare providers. This year

there have been three courses in the Highlands, at provincial, district and rural health centre facilities, and a course in the remote islands of Milne Bay. Another five are scheduled for this year. The local instructors make changes to the course to make it more appropriate to the circumstances in which they deliver it. It is delivered to the entire range of primary



healthcare providers: Aid Post health workers, Community Health Centre staff, HEOs, hospital staff and doctors.

What is happening in PNG is being extended to the Solomon Islands, where there are now Master of Medicine Emergency Medicine trainees, and the leaders are PTC instructors. Leading PNG instructors are taking the message to other Pacific Islands as well, this year to Fiji, Samoa and Tonga. This is a course that any rural practitioner can access and provide in any shape they like at their workplace. It is available from the PTC Foundation, the WHO, or from me.

**Emergency Life Support course:** The ELS course was developed by the Australasian Society for Emergency Medicine in response to the need in remote and rural Australia for a mobile course that could update and add to basic skills in caring for the critically ill medical patient – as distinct from the trauma patient.

The course is now managed by Emergency Life Support Inc. in Tamworth, New South Wales. It has had a major uptake in rural eastern states, and is being introduced to New Zealand. In WA courses have been run in Perth and Kalgoorlie, and a course is scheduled for Broome. To 2008 there have been 151 courses with 2,700 participants.

In response to the same need in PNG to upgrade capacity to respond to medical emergencies, ELS has been developed to ELSi, Emergency Life Support International. Currently it is being delivered to doctors only, and we are training PNG instructors. The plan is to build sufficient capacity for PNG doctors to run the course and to provide it to the wider range of healthcare providers.

**Snakebite management course:** This course has been established by an Australian herpetologist David Williams and a New Zealand emergency physician Simon Jensen, in conjunction with the Australian Venom Research Unit in Melbourne.

Snake bite is a major cause of morbidity and mortality in rural PNG, with hundreds of deaths per year, mainly from

taipans and death adders. There are huge challenges in the delivery of basic knowledge about first aid and specific care, and in the delivery of antivenom. A consequence of this course and of the activities of its innovators is that there is now a major investigation into snakebite management in PNG, led by Bart Currie of Darwin. There is an effort being made to reduce costs, corruption and fraud in the delivery of antivenoms. For example, Indian antivenoms, useless in PNG, were being sold to unknowing Papuans.

**Advanced Diploma in Emergency Medicine:** This diploma has been developed and delivered by Sandra Rennie over the past four years. It is conducted under the auspices of the Faculties of Health Sciences and Flexible Learning at Divine Word University (DWU) in Madang, on the north coast of PNG. It is primarily a distance learning program so that workers can study at their rural workplace. It also involves 4 weeks of intensive training while resident at DWU.

The modules include medical emergencies, surgical and trauma emergencies, child health emergencies and reproductive health emergencies. These modules are contributed to by a range of specialist and non-specialist practitioners, and so are a collaborative venture of inter-professional teams. The graduates are genuinely rural healthcare providers who will use their skills locally.

### *Sri Lanka*

Sri Lanka is another example of a country that is beginning to build a primary response for medical emergencies. The health system in Sri Lanka is in many ways more advanced than that of PNG, but it seriously lacks attention to acute care, particularly in rural areas. AusAID assistance to Sri Lanka since the Boxing Day tsunami in 2004 has been catalysing an interest in acute care and a generalist approach to rural needs. Australian emergency physicians and nurses are building capacity for trauma care, and we are in the process of delivering the ELSi course there. Two leading Sri Lankan doctors have visited Melbourne for training and,



now that hostilities have subsided, we plan to get Australian instructors to Sri Lanka to run courses there.

## *Nepal*

Nepal provides a contrast. Nepal established general practice as its *first* indigenous postgraduate training program, with the intention of providing generalists to district and rural hospitals.

The original development was assisted by Canadians from the University of Calgary. Lately, Australian general practitioners have been making substantial contributions. In Dharan in eastern Nepal, Australian rural GPs work with Nepalis in the hospital outpatient department, the emergency department and in the districts. The previous professor of Family Medicine and EM there was Owen Lewis, a GP from South Australia, and the current professor is Sue Smith, a GP from NSW. The Nick Simons Institute, a new venture associated with Patan Hospital in the Kathmandu Valley, is committed to building capacity in rural areas. The acting director is Bruce Hayes, another Australian GP.

The major Nepal teaching institutions are now looking at building emergency medicine programs, using their general practice programs as a foundation. I am assisting them in getting started and we hope to involve Australians and New Zealanders in the process.

## Challenges

The developing world presents challenges, not all unique but often with dimensions that are different from our more developed environments. In trying to promote innovations in health policy, systems can be immovable. There is often a powerful cultural force for maintaining the status quo: doing things the way they have always been done is important and change is dangerous. This, of course, opposes the very concept of innovation. In some societies discussing a matter, doing the 'toktok' – talk talk – is to deal with it; nothing more needs to be done. Inertia is culturally appropriate – these countries are in the tropics, after all. The Pacific Way

is to not move and, if you really have to, to move very slowly. When health plans are written, and they can be written extravagantly and in great detail, consuming a great deal of time and funds, the agreeing to them is the business, the application of them is not. For example, referring to the National Health Plan 2001–2010 to try to get something done may get the response "Yes, they wrote that then. Now is now."

## *Rural health education*

This has all the challenges of health education, with 'rural' added. A major challenge is the paucity of funding and resources. This can be at the simplest level of things, such as paper and whiteboard marker pens. At the leading tertiary centre the photocopier cannot be repaired because there is no technician, and the computer printer doesn't work because the ink refill is too expensive. In the rural area the whiteboards didn't arrive because the porters wouldn't carry them. Paper is rotated 90 degrees and re-used. A donated copier is still wrapped because the power plug is foreign. A road that was put in to improve access was washed away, as was the small donated hydroelectricity installation.

## *Cultural challenges*

Building inter-professional teams can be challenging where there are demarcations and boundaries by 'wantok' (that is, the 'one talk', the same language), by tribe, by caste or by gender. In some circumstances there is open hostility between members of the constructed 'team'. Covert hostility can also sabotage an endeavour, and the visitor may have no idea why it isn't working. In PNG the wantok system is at the same time one of the best and one of the worst cultural features of the country. It provides the social and community services that the nation does not, but at the same time it counters attempts to build national identity and so a broader sense of community responsibility. In South Asia caste can still be an impenetrable barrier. And gender issues are widespread, most overtly perhaps in some Moslem communities, but by no means exclusively or extremely there.



Then there are the general challenges of a developing country. There may be civil unrest, as, until recently, in Sri Lanka and Nepal. In the system as a whole, there may be nepotism (that is, the wantok, the tribe, the caste, looking after their own), corruption may be a way of life, and outright criminal behaviour may go without consequence.

## *Challenges for the individual*

For the individual there may be issues of:

- security – for example the ‘raskols’ (bandits) in Port Moresby
- accommodation – none maybe available or if there is there may be no electricity, no running water, blocked drains, and a leaking roof in the monsoon
- risk of injury and illness – the greatest hazard in developing countries is road trauma, as well as all those more frightening tropical diseases
- funding and remuneration – that is, a lack of it
- family – what does a partner do?
- education of children
- burnout – when I walk across the melting tarmac on arrival in PNG I slow down to one third, and remind

myself to expect that nothing will work, nothing will happen, no-one will do anything, so that when something does work, something does happen, someone does do something, I have a good day

- succession – now that I’ve started this, who will keep it going?

Of course, many of these issues also arise in the more rapidly developing world, such as in remote Australia, New Zealand, Canada, even in Wales; but in poor countries they are magnified, sometimes many times over.

## Conclusion

I hope this short journey has provided something of a perspective on innovations in one component of rural care – the capacity to respond to acute illness and injury – in developing countries in our neighbourhood. More rapidly developing countries can contribute usefully within these countries by building the capacity of the people to do things for themselves. In rural health, involving all the contributors to provision of care is essential and challenging, but rewarding.