

A perspective on developing emergency medicine as a specialty

Chris Curry

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Abstract

Aims A rapidly increasing number of countries are developing their capacities to respond to acute illness and injury and organizing emergency medicine training programs. This article offers some insight into the way emergency medicine has undergone development in the Australasian region.

Methods The perspective is built from experience in Australia, New Zealand and Papua New Guinea.

Conclusion The challenges are many, but with persistence can be surmounted. Lessons derived from these diverse environments are presented.

Keywords Emergency medicine · International · Development · Training · Specialty

Introduction

At an inaugural conference on Emergency Medicine in the Developing World held in Cape Town in 2007, there were delegates from 44 countries. As the President of the International Federation for Emergency Medicine (IFEM) wrote in a 2007 editorial [1], emergency medicine is rapidly becoming a global specialty. Increasing numbers of countries are exploring ways to build emergency medicine (EM). Every country has its own unique aspects, but in the

development of EM all have more that is common than is unique. The author spent 10 years in New Zealand building EM and has been contributing over 7 years to the development of EM in Papua New Guinea (PNG). In New Zealand he borrowed from Australia, who had learned from the UK, USA and Canada. PNG is now selectively borrowing from Australia. Developing countries can learn from how things have happened in other places, extracting what might be useful for their own circumstances. This article offers some selected observations and invites the reader to see if there are any parallels to their own circumstances that they can make use of.

Beginnings

The author's first exposure to emergency medicine was as a student in 1978 at the Kenyatta National Hospital in Nairobi. The most junior doctors did the best they could with a huge workload without any guidance. In 1979 as a new graduate at the Royal Perth Hospital in Western Australia, he started in a busy emergency department supervised by a former anesthetist where often the most senior doctor on the floor was in their 2nd year post graduation from medical school (PGY2). There were aspects that were appreciated: it was hospital, generalist, unpredictable, often exhausting, sometimes terrifying, and from time to time exciting and enormously satisfying. But there was no career pathway to continue doing it.

In the UK in 1962 an orthopedic surgeon, Harry Platt, had recommended that emergency departments, then called "casualties" (as indeed they were), should have a senior doctor in charge. In 1965 these newly appointed directors, mainly orthopedic surgeons, established the Casualty Surgeons Association. In 1982 the Royal Colleges of

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C. Curry (✉)
Emergency Department, Fremantle Hospital,
Alma St,
Fremantle, Western Australia 6160
e-mail: chris@chriscurry.com.au

Physicians and Surgeons of Edinburgh in Scotland established the first specialty exams for emergency medicine in the UK.

In the same year the author went to the UK. At Southampton General Hospital, a major teaching hospital, the “Accident and Emergency” was directed by a general practitioner who looked after minor injuries. The emergency work was done by PGY2 doctors, and it was unavoidable that incompetence contributed to “accidents” in the department. There was one registrar on the new training scheme, which was viewed by other specialty trainees as not one that anyone who took themselves seriously in medicine would do.

Australia

In Australia the first “Casualty” to get a director was at Geelong in Victoria in 1967. In the 1970s new directors grouped in local societies. By 1981 there were sufficient numbers to establish an Australian Society for Emergency Medicine, expanded to Australasian to include New Zealand. The society determined that the way to progress training in emergency medicine was to establish an independent autonomous college, modeled on the colleges of the well-established specialties, particularly surgery. The Australasian College for Emergency Medicine was founded in 1984 with a fellowship of 70 directors of “Casualties” and “A&E,” who charged themselves with the task of building emergency medicine as a specialty. The first President, Tom Hamilton, was a Scotsman in Western Australia and a former surgeon. The College conducted the first exit exams in 1986, from which eight new specialists were added to the fellowship.

All this happened because there were doctors working in emergency departments who saw the inadequacies of having the least trained, least competent, least supervised junior doctors attending the most unstable, least differentiated patients in the hospital, while senior staff from the inpatient specialties leveled criticism at them. This was a time when anyone more senior than PGY2 who wanted to work in a “Casualty” was regarded as incompetent for anything worthwhile, as a failure, as treading water until retirement, or as mad. These misfits were the first champions.

It was with the emergence of the first doctors claiming specialty status by training and examination that the battle for recognition by colleagues in other specialties could really get under way. From their efforts would eventually come the evidence that emergency medicine deserved to be fully recognized by the several layers of medical governance and by the national body, the National Specialist Qualifications Advisory Council (NaSQAC). This was an effort from the ground up, and it took 10 years. A seminal

paper of the time was an editorial in the Medical Journal of Australia in 1989 by Peter Cameron and Joe Epstein, the second President and also a former surgeon. It was titled “Emergency Medicine - no longer a casualty” [2].

New Zealand

In 1986 the author went from the UK to Christchurch in New Zealand. He was disturbed to find conditions in the “A&E” worse there than in Australia and the UK, and in some respects worse than in Kenya. That year he also learned of the new Australasian College for Emergency Medicine. In 1989 he became the first fellow of ACEM by examination in New Zealand, was recognized as a specialist by Christchurch Hospital and set to work on several fronts. A key tool in getting started was the paper “Emergency Medicine - no longer a casualty” [2].

By default he became the New Zealand representative at College on the training body, called the Board of Censors, and on the management body, the Council. As the poor cousin from New Zealand he was able to bring back developments by the bigger and stronger neighbor, Australia. These included training programs, a system of triage, standards for staffing of EDs, standards for transport of patients, and much else.

In 1993 the New Zealand Medical Journal published a Leading Article “Emergency Medicine - a new specialty” [3]. The author had, of course, borrowed from Peter Cameron and Joe Epstein. He quotes (with permission from NZMJ):

“With the development of expertise, emergency departments have undergone fundamental changes in the last 10 years. In the resuscitation room, specialists coordinate a multidisciplinary team in the management of multisystem major trauma. Life-saving interventions are initiated immediately. Patients receive quality intensive therapy until a bed in an ICU is available. Myocardium is saved by the early commencement of thrombolysis. Safety and efficiency considerations make the emergency department (ED) a logical location for soft tissue repairs, urgent procedures warranting conscious sedation, joint enclonations and lumbar puncture. Avoidable mortality and morbidity are reduced by having expertise immediately available, on site. Efficiencies are gained by the judicious ordering of appropriate investigations, and management strategies are initiated expeditiously. Costs are contained by reducing unnecessary hospital admissions. For example, in the area of toxicology there has been a major shift from inpatient to short-term ED management. Substantial improvements in pre-hospital care are achieved by the involvement of specialists. Major incident and disaster preparedness becomes a reality rather than remaining an idea.”

The final paragraph read:

“In areas of resuscitation, differential diagnosis, initiation of appropriate investigation and management, and in the appropriate disposal of their patients, specialists are bringing emergency care up to parity with the inpatient services of longer established specialties. Their ability to act as gatekeepers, while dealing efficiently with the expanding range of illness and injury that can be managed without hospital admission, will become increasingly important in the new health environment.”

That was 1993. It took another 2 years to persuade the Medical Council and the Government of New Zealand that EM was worthy of full recognition as a specialty. By 1997 there were 70 NZ doctors in the ACEM training program, and a decade later there were 111 specialist emergency physicians there.

How was specialty recognition achieved? In Australia and New Zealand, it was built from the ground floor of EDs and through the energies of the fellowship. Hospital administrators were persuaded to employ doctors more capable than PGY2. The College, the ‘union’ for this movement, established a training program demonstrably as rigorous as that of other specialties. It produced graduates who knew that they would have to fight for recognition. These pioneers engaged the medical community on every front, in hospitals, in local, state and national bodies, in interdisciplinary courses, in medical schools, in pre-hospital care, and in other arenas of acute care. They established a journal. It was only when it became beyond argument that EM practitioners were functioning as specialists, and were being recognized by peers and hospitals as specialists, and after multiple attempts, that EM was recognized by the national authorities.

Papua New Guinea

Papua New Guinea (PNG) provides a dramatic contrast. However, while there is much that is very different, in the business of delivering acute care there is much that is common. PNG lies immediately north of Australia, is its closest neighbor and from World War 1 to 1975 was administered by Australia, but by many measures of infrastructure, economics and standard of living, PNG lies at the opposite end of the world spectrum.

There is one medical school in PNG, and specialty training is conducted by the Postgraduate Committee of the School of Medicine and Health Sciences of the University of PNG. Graduates of specialty training are awarded a Master of Medicine. PNG is now largely independent in the training of doctors for the major specialties. In 1996 the Postgraduate Committee recognized the need to improve the capacity to deliver care to the

acutely ill and injured and established a Master of Medicine for Emergency Medicine (M.Med.EM). Without expertise, PNG nationals were unable to provide leadership, so the plan lay dormant. In 2000 the National Department of Health and the Ministry of Health identified emergency medicine as a priority in their 2001–2010 National Health Plan. The Australian Agency for International Development (AusAID) was asked to assist in launching the program, and in 2002 AusAID funded an emergency physician in residence and visits by others [4]. Emergency physician support has continued since [5, 6]. So this is a program built from the top down, with input from an established neighbor.

The first trainee was awarded his Masters diploma in April 2007. In 2008 there were 17 trainees in the program, 3 from the neighboring independent state of the Solomon Islands. Other Pacific Island nations may join the program in the future.

Capacity building

The EM trainees are establishing credibility by building local capacity to respond to acute illness and injury, particularly in rural areas, through several courses.

Primary trauma care

The Primary Trauma Care course was developed for environments with limited resources [7]. By 2007 it was established in 35 developing countries. In PNG it was introduced in 2002 by emergency physicians. It has been well received by provincial hospitals because it can be delivered very simply. There are now a number of PNG instructors with the capacity to run courses independently.

Snakebite management

Snakebite is a major cause of avoidable mortality in PNG. There are parts of the country where there are more deaths from snakebite than from malaria, and that is in malaria endemic regions. A course has been developed, led by an Australian toxinologist, David Williams, and a New Zealand emergency physician, Simon Jensen, and is now being disseminated widely [8].

Diploma of emergency medicine

In PNG 80% of the population lives in rural areas, and most health care is provided by community health workers, nurses and health extension officers. The Divine Word University, a Catholic Church-funded institution, has established a postgraduate Diploma of Emergency Medicine for these providers. The course was developed and

delivered by Sandra Rennie while an Australian EM trainee. The first cohort graduated in March 2008.

Emergency life support

The newest contribution to capacity building is an Emergency Life Support course. The Australasian Society for Emergency Medicine developed a course for rural and remote Australia and has been running it for 10 years [9]. This has now been further developed for the particular circumstances and conditions of PNG. Led by John Kennedy, it was launched in September 2007.

Lessons

Building emergency medicine involves many uncertainties. Here are some pointers towards getting started:

1. Champions

Major changes are achieved by pioneers prepared to champion a cause. For emergency medicine this has been easier where the champion has had a recognized specialty qualification, such as in surgery. The second level to find a champion is in a hospital department, and this also has most commonly been in surgery.

2. A 'union'

A body politic, a group with one purpose, needs an organization to represent it. These can be useful at the institutional, city and state levels as well as at a national level.

3. Administrator support

It can take a major effort to gain the support of administrators. Pursue it relentlessly, at all levels, from hospital to government.

4. Bottom-up development

In Australia/NZ the ground swell came from the floor of EDs. The pioneers had to change the minds of hospital staff, administrators, then medical councils, health departments and governments.

5. Top-down development

This is possible where there are examples to take advantage of. This is what happened in PNG, which saw the Australian example.

6. Endurance and energy

Progress is made by a group prepared to cope with poor recognition. They persevere because they know what they are doing is right. There needs to be engagement with all

facets of the delivery of acute care, expanding from the ED to hospital committees, undergraduate and postgraduate training and courses, pre-hospital care and retrieval, disaster preparedness and so on.

7. Use benchmarking

This is the process of making gains by making comparison with others doing better and campaigning to do at least as well, if not still better. One site can provide a lead for others to follow and to surpass.

8. Borrow from others

Make use of other people's work. Emergency physicians applaud that. It is the reason the International Federation for Emergency Medicine [10], the International Emergency Medicine Special Interest Group of ACEM [11] and other international organizations exist.

9. Take advantage of local events

There are situations that can be capitalized upon. Mass casualty incidents, disasters, an emergency suffered by a VIP or politician and bad outcomes in EDs can all focus attention on the need to build capacity to respond to acute illness and injury.

10. Take advantage of local interest

Sometimes a particular local focus, such as disaster preparedness or a regional trauma system, can be the way in to promote EM in its entirety. In PNG active volcanoes are an impetus. In India an expanding road system with spiraling road trauma demands attention, not only at the roadside but also on reception in hospitals.

11. Recognize local appropriateness

Different environments require their own approach. The PNG training program is very different from the Australasian and even more different from the US programs.

The way EM is done in one country cannot be transferred directly to another. Each country must develop its own way of providing care to the acutely ill and injured, and thereby have ownership of it.

12. Link EM to local primary care and public health initiatives

Prevention is included in the IFEM definition of emergency medicine. While emergency physicians are advocates for public health measures, these will not eliminate the need for a capacity to respond to acute illness and injury.

13. Educate everyone

There is a need to keep on saying what EM is, to everyone. Medical colleagues, administrators, government

agencies and the general public need to be told time and again. Recurring responses in developing environments include disinterest, scorn, contempt, antagonism and obstruction, from colleagues, administrators and leaders. This can only be overcome by taking every opportunity to educate, a campaign that needs to be on multiple fronts.

14. Organize an independent training program

Independence is important. Dependence on established colleges constrained the development of emergency medicine in the UK, while an independent college in Australia/NZ promoted it.

15. Become instructors

An effective way to influence colleagues and junior doctors is to be instructors for acute care courses, such as ATLS, ACLS, APLS and others. One can advise that doing courses is not sufficient and does not equate to specialist training.

16. Look for sustainability

This needs to be built for the training program, for job prospects and for career development. Realism is required in recognizing the limitations of local resources. At the same time, it is certain that the supply of trained emergency physicians will increase the demand for them.

17. Prioritize the direction of effort.

Resources are always limited, so the most effective use must be made of them. For example, effort put into training more trainers will have a greater long-term impact than effort put into providing service.

18. Overcome roadblocks

The journey has many roadblocks. Some can be overcome alone, some need help to overcome, some need others to overcome for you, some can be circumnavigated, some can be waited out, while others - a few - are insurmountable and one simply has to go back to base camp and take an entirely different route.

Conclusion

Our aim should be to ensure that most people worldwide have access to basic acute care. It requires commitment and faith to develop a capacity to do this, but something can be created from nothing when the cause is right, which it is, and the pioneers have the will. Local champions must find a way through the local ways of doing things. The journey

will need resolve, patience, persistence and perseverance. Progress can be by fits and starts. There can be long periods of apparent stagnation or impasse. Then there can be sudden movements; revolutions can happen, and one has to be ready to take advantage of them. But mainly progress is made by a series of small increments, a multitude of small steps, so one has to be prepared for a long campaign. The greatest journeys are made one step at a time. Keep in mind - it has already been demonstrated in several countries - the emergency medicine journey is worthy.

Conflicts of interest None.

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Chris Curry is a senior emergency physician at Fremantle Hospital in Fremantle and a clinical associate professor at the University of Western Australia. He is a visiting professor at the University of Papua New Guinea, and the current Chair of the International Emergency Medicine Special Interest Group (IEMSIG), Australasian College for Emergency Medicine (ACEM). Additionally, he is a member of the Executive Management Committee, International Skills and Training Institute in Health (ISTIH), Western Australia.