

COMMENTARY

John Flynn meets James Mackenzie: developing the discipline of rural and remote medicine in Australia

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ABSTRACT

This commentary is a reflection on the lives of two men, whose qualities seem to reflect those needed in the establishment of the academic discipline of rural and remote medicine in Australia. The two men displayed three characteristics which those involved in change require: they were there; they equipped themselves to make a difference; they were not afraid of where change might take them. If rural and remote Australasia is to receive appropriate health care, the main medical workforce has to be made up of contextually trained rural generalists. This rural doctor will be a general practitioner with the additional competencies of paediatrician, internist, obstetrician, anaesthetist, surgeon, emergency physician and so forth, depending on the needs of both rural hospital and community. Without training for this role, our ageing rural workforce will never be renewed. Our medical schools, postgraduate councils and colleges are currently failing to provide appropriate numbers of such Australian trained graduates to fulfil the needs of rural communities. That task needs to be carried out by an academic discipline of rural and remote medicine, working through all these bodies. The current tripartite structure of medical education (4-6 years medical school, 2-3 post-graduate years, 4 years vocational training) with metropolitan domination and frequent transfer of responsibility, is directly contributing to the crisis in rural medicine, where 'rural and remote' is seen as an occasional tourist destination, rather than the centre of the process. The Rural Clinical Schools model needs to be expanded to provide a platform for appropriate education and a training pathway not only for medical students, but also for prevocational, vocational and established rural generalists. Only in this way



will we be able to convert the ‘Tsunami of medical graduates’ expected in 2010 to an adequate supply of rural and remote generalists into the future.

Key words: graduate, health services research, internship, medical education, regional health planning, residency, undergraduate.

Introduction

James Mackenzie and John Flynn were worlds apart and never met, but they shared a passionate interest in changing the world in response to the compelling needs of their time and situation. One was a general practitioner and the other a Presbyterian minister; the former worked in an English industrial town and the other in the Australian outback.

Sir James Mackenzie¹ (1853-1925) was a graduate of Edinburgh University who commenced working in general practice in Burnley, England in 1879. Part of his practice included domiciliary obstetrics and his clinical epiphany came soon after going into practice when an apparently well woman, under his care, died suddenly of heart failure in the first stage of labour. He was a man given to solving puzzles², and the question he addressed was, ‘Would this death have occurred if I had a better knowledge of heart afflictions?’ His response was typical of the stubborn but creative attitude he showed throughout his professional life.

I studied the circulatory condition of women before pregnancy, watched them during the time they were pregnant, observed them closely during labour and the puerperium and for months and years after.

Eventually he decided that the most appropriate form of early diagnosis was provided by observation of the jugular venous pulse (JVP) and he designed ‘Dr Mackenzie’s Ink Polygraph’ to measure the pulse. It seems incredible that only 120 years ago doctors had no idea of the significance of the JVP or of atrial and ventricular dysrhythmia, but it was the burning question in the mind of a generalist that laid the foundation of an important speciality. Incredibly, the initial research in cardiology was carried out in a general practice

and Mackenzie corresponded with pioneers such as Wenckebach and Osler on his research findings. Paradoxically, Mackenzie felt that a move to London to become a specialist in Harley Street would be in the best interests of the future of medicine. He therefore became one of the first specialists in cardiology, but later moved to St Andrews in Scotland to set up an Institute of Clinical Research.

Mackenzie’s burning obsession was that medicine was studied from the wrong perspective and that generalists should provide the basis of medical research. He was almost certainly the first person to apply the term ‘epidemiology’ to non-infectious disease, and he emphasised the role of prevention and the study of ‘the predisposing stage’ of disease.

The Reverend John Flynn³ (1880-1951) started life as a Presbyterian missionary in the Otway Ranges of Victoria, ultimately becoming the Superintendent of the Australian Inland Mission. In 1917 he read the story of a stockman called Jimmy Darcy who was badly injured at Ruby Plains some 80 km from Hall’s Creek in the Kimberley region of Western Australia. In Hall’s Creek there was no doctor, only a postmaster with some knowledge of first aid. It took 12 hours to take Jimmy to Hall’s Creek and, when he got there, Fred Tuckett the postmaster could tell that he was suffering from internal injuries. There was no doctor in Wyndham, 480 km away, nor in the town of Derby, so he telegraphed Perth 2500 km distant and was able to contact Dr John Holland by wire. Dr Holland decided that Jimmy had a ruptured bladder and instructed Fred to do a perineal cystostomy. Incredibly, Fred carried out two further operations but the patient did not improve, and Dr Holland decided to go to Hall’s Creek and attend to the patient himself. It took 6 days by cattle-boat to get from Perth to



Derby, and another 7 days to drive from Derby to Hall's Creek where he arrived, only to find that Jimmy had died the day before.

John Flynn's reaction to this story was typical of a man who had a passion for the people of the Australian outback, and a desire to ensure that they had access to the best medical care and education. His response was to find a practical answer to the problem of distance, and eventually he founded the Royal Flying Doctor Service and the School of the Air (distance education for children using two-way radio). It was a far cry from his original training in theology and pastoral care, but it was a necessary response to the needs of his environment.

So what has the experience of these two men got to do with this delineation of the discipline in Australia? We believe they displayed characteristics which those of us involved in the evolution of our academic discipline are required to display: they recognised the problems; they equipped themselves to deal with the problems; and they were not afraid of where change would take them.

They had become painfully aware of what the problems were

James Mackenzie experienced a 'critical incident' in that bedroom in Burnley with the sick patient in labour. He had to experience the consequences of undiagnosed heart disease for the patient and her family before he could fully frame the questions that drove him to design his research. Likewise, it was only after a considerable time in the bush that John Flynn realised folks out there needed more than sermons to help them survive.

Similarly, it is those who currently deal with the issues of practising medicine hundreds of kilometres from tertiary hospitals who can address the question as to which academic discipline is best fitted to the sustainable future of rural medicine.

They equipped themselves to make a difference

James Mackenzie soon realised that, in order to understand the reasons apparently healthy women died in childbirth, he had to acquire evidence by studying the natural history of heart disease. John Flynn realised that gospel tracts were written for the city, and mainly for those who have some knowledge of church terminology. He decided that they needed something much more practical, like instructions in first aid and how to conduct a simple burial service for a dead mate. This resulted in him publishing 'The Bushman's Companion' in 1910, which became an instant bestseller. Later, from the same inquisitive nature and determination to ask people from the bush what was really required, came the development of hospitals and the Royal Flying Doctor Service.

Rural doctors are very much aware that they need skills to equip themselves for practising in country areas so that they will not be found wanting when specialist support is either unavailable or difficult to access. The equipping issue is complex because the needs vary so much from place to place. This requires those of us who work to devise training programs to have flexibility, not only in the range of vocational preparation available, but also in its career timing.

They were not afraid of where change might take them

James Mackenzie's investigations led him first to give up general practice and become a specialist cardiologist, and then to set up an Academic Institute of General Practice. He had major prophetic concerns about the ultimate effect of specialisation:

I fear the day may come when a heart specialist will no longer be a physician looking at the body as a whole, but one with more and more complicated instruments working in a narrow and restricted area of the body - that was never my idea¹.



However, the fact of the matter is that he became the father of cardiology. The famous American cardiologist, Paul Dudley White, summed it up: 'Mackenzie was a great pioneer, really the initiator of modern cardiology in English speaking countries'¹. In contrast, his Institute of General Practice was generally regarded as a failure, although it did provide a model for future departments of general practice.

John Flynn eventually found himself away from his theological base, probably much to the dismay of his Presbyterian brethren. His path took him far from the ordinary experience of an ordained minister into the problems of delivering care to sick and isolated people, telescoping distances, and discussing the possibilities of air transport with returning airmen who had served in the Great War. However the driving passion was the same as the one which had brought him into ministry – strong love and strong faith.

Similarly, rural doctors have, over the last decades, been pushed by circumstances into travelling down a track that has led to change. Recently there has been much controversy over the application by the Australian College of Rural and Remote Medicine (ACRRM) to the Australian Medical Council regarding recognition of the medical discipline as a medical specialty. While the outcome of the application was that the Minister of Health did not consider a case had been made for recognition, the real outcome of the process was contained in the Health Insurance (General Medical Services Table) Amendment Regulations 2007 (No. 2). This amendment included practitioners with ACRRM qualifications in the definition of general practitioner and allows their services to attract Medicare benefits at the higher rate applicable to general practitioners, that is, we have been recognised. This exercise has been a good illustration of what Gayle Stephens described as the process of creating a new clinical discipline when he made the point that:

Most of the disciplines sprang up like Topsy and exist by virtue of political, economic and technological

factors that have little to do with a theory of knowledge⁴.

It is obvious that those who proposed and developed the academic discipline of rural and remote medicine in Australia have caused some grief to those who believe that the discipline of general practice is equally appropriate to urban and rural locations.

However, rural and remote medicine in Australia 'sprang up' in the 1990s because a large number of rural doctors had the perception that the generic specialty of 'general practice' was not coping with the needs of rural medicine.

The 'one discipline fits all' approach had some attractive political advantages in ensuring the numerical strength of general practice, but eventually the differences between the urban and rural groups was strong enough to cause the split. However, it is also true that having two strong colleges representing primary medical care will be better than one. Responding to the clinical, educational and research needs of graduates and populations should be more important than the political imperatives of perceived unity in the profession.

The present situation and what is needed

The essential problem we face is that medical care has become increasingly specialised, and the discipline of general practice has been trying to find itself a role in that setting. That role is now evolving into a nine to five, Monday to Friday office activity with a large role in chronic disease management but with little emergency or procedural content. In rural areas, this approach does not work because there is not enough work for super-specialists, and general specialists are now in equally short supply. The result has been an acute shortage of rural specialists. The response of health departments has been to scrape for the latter at the bottom of an ever-emptying barrel, but the real problem is that we are not training enough rural generalists equipped to provide both primary care and specialist support services and



procedures. It is a situation akin to that of Jimmy Darcy in Hall's Creek or the woman in the bedroom in Burnley.

In an ideal world, the rural medical generalist can be general practitioner, paediatrician, internist, obstetrician, anaesthetist, surgeon, emergency physician in both hospital and community. This is provided that he/she can demonstrate competencies derived from these disciplines, additional to general practice skills, and appropriately deliver them in the geographical constraints imposed by rurality and remoteness. The alternative is to deliver nothing and continue to be embarrassed by health statistics that reveal the handicap of rural and Indigenous communities. Good intentions, such as those expounded in rural health policy documents put out from time to time by Federal Government departments and various health groups, are of no effect if there are no practitioners to front up to patients.

What is needed are competent practitioners of all the various generalist disciplines, trained specifically for rural practice. Without specific training for this role, our ageing rural workforce will never be renewed. Our medical schools, postgraduate councils, colleges and regional training providers are currently failing to provide the appropriate numbers of such Australian-trained graduates to fulfil the needs of rural communities. That task needs to be guided by an academic discipline of rural and remote medicine, working through all these bodies.

Our two heroes endured a fair amount of turbulence as they sought to correct perceived deficiencies of their time, but cardiology is now an accepted discipline within medicine, and the Royal Flying Doctor Service is seen as a necessary feature of the Australian landscape. Similarly, we now know that the complexity of care in rural Australia increases with both remoteness and rurality⁵, and that the rural generalist is the acceptable future professional in these areas⁶.

What is needed now is action to produce these rural generalists by means of an academic pathway from rural student recruitment to established rural career, via undergraduate education, rural pre-vocational postings, and

vocational and continuing education. To accomplish this we need to modify the current tripartite structure of medical education (4-6 years medical school, 2-3 post-graduate years, 4 years vocational training) with its metropolitan domination and frequent transfer of responsibility, which is directly contributing to the crisis in rural medicine by regarding rural and remote locations as an occasional tourist destination rather than the centre of the process of delivering medical education and services to rural communities.

The educational model of Rural Clinical Schools has worked because they are based where the problem is. This model could easily be expanded to provide a platform for an appropriate education and a training pathway, not only for medical students, but also for pre-vocational, vocational and established rural generalists. In this way the 'Tsunami of medical graduates' expected in 2010 will be converted to an adequate supply of rural and remote generalists into the future.

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