

# Medical Education Towards 2010: Shared Visions and Common Goals

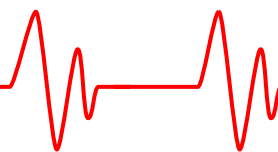
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CONFERENCE PROCEEDINGS

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**MedEd2005**

Medical  
Education  
Conference  
2005



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## Preface (Welcoming address)

### Professor Lindon Wing, Chair, CDAMS

Why do we need to bring together the players in the complex exercise known as medical education? Since the 1988 Doherty Report into medical education and the medical workforce, there has been rapid change in Australia in the education of medical practitioners, and in their vital teamwork links with all other health professionals. Before this time, it seemed that there was complacency and conservatism relating to medical education, as well as to our assumptions about the number, distribution and type of medical practitioners that our community needed. Despite, or probably because of, the major changes that have occurred over the past 10 to 15 years, we have recently seen a public demonstration that adheres to the views that existed before these changes were made.

Since the establishment of specialist colleges in Australia in the late 1930s and the gradual emergence of subspecialties, medical practice and medical education have become dominated by the teaching hospital environment. However, in the 1970s, the pioneering work of innovative medical schools, such as McMaster University in Canada and the University of Newcastle in Australia, provided some stimulus to consider a different and broader approach to medical education, suggesting a different paradigm of practice. The impetus provided by the Doherty Report and the influence of the Australian Medical Council process of medical school program accreditation has gradually provoked all our medical schools to question what they do and how they do it, and has revolutionised approaches across all schools. It is no longer acceptable to be complacent and bask in the glory of a course that has been running for more than a century. If it does not meet the needs of our times and current educational expectations, the course will rapidly be found wanting. This has been a stimulating and positive development but, as the continuous change that has now become the norm suggests, there are continual challenges to which we must adapt.

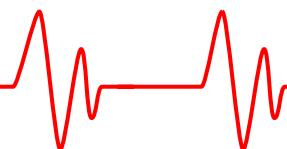
The biggest challenges have come more recently as governments have realised that there is a crisis in our health workforce. They are now trying to address this, challenging us to help them with innovative solutions. As educators, we are on the cusp of having to defend everything that we do in the face of continuous challenges, such as whether the changes that we have made to our programs are appropriate, whether the models of practice that we espouse are the right ones, whether we are meeting the community's needs yet maintaining appropriate standards, or whether the directions that we believe we should take in the future are the right ones. The health professions have never been entirely successful at working together, and there are numerous examples of 'silo' mentality, which is counterproductive to any further progress. Different roles for different individual health professionals, a better understanding of each health professional's role, contribution to the team effort to improve individual and public health, and the changing desires of health professionals in relation to their work and life goals are major issues that we must understand and embrace as we work towards innovative and sustainable solutions for the future.

This conference is therefore an opportune time to take stock and to examine the current challenges and work together to develop such innovative and robust solutions to the education and sustainability of the nation's medical workforce over the coming years.

The conference title suggests that the initial focus should be on the next 5 to 10 years; however, that does not prevent us from looking beyond. The focus is predominantly at the level of education leading to a bachelor's degree — either the school-leaver programs or the graduate-entry programs. However, much is also happening in postgraduate medical

education in both Australia and New Zealand and, indeed, worldwide — whether it is at the earliest prevocational stage straight out of medical school, during postgraduate vocational training, or during continuing professional development. We need to be mindful of this continuum of medical education, as well as the potential of our proposals to stimulate and assist the linked change in this continuum.

The conference has been organised to allow maximum participation through the workshop format, with appropriate keynote addresses and plenary symposia to provide information to assist the pivotal group discussions. The Committee of Deans of Australian Medical Schools (CDAMS) looks forward to being a major player leading to continual change aimed at developing and sustaining world-class quality medical education in Australia and New Zealand, and in producing the workforce that the community needs for the 21st century.



## Dr Joanna Flynn, President, Australian Medical Council

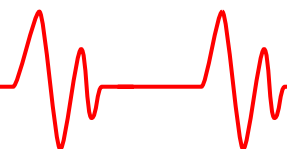
In the 17 years that the AMC has reviewed accredited medical courses in Australia and New Zealand, it has documented significant changes in medical education, which the *Medical Journal of Australia* described in 1998 as a 'sea-change in medical education'. These changes can be summarised as follows:

- The way in which medical students are educated has changed:
  - there is now an emphasis on active learning, learning key principles and preparation for lifelong learning.
- The places where students are trained have also changed:
  - medical students are placed in general practices, community health settings, doctor's private rooms and private hospitals, and — perhaps increasingly — small urban and rural hospitals, as well as the traditional tertiary teaching hospitals
  - there is far less time in the dissecting room.
- There have been significant changes in the medical student population:
  - about half of Australia's medical schools only admit students who hold a degree in another discipline
  - all medical schools are committed to selecting rural and Indigenous students
  - more than half the students now are female
  - the age range of students is much more diverse
  - the ethnic and cultural mix of local students is a mirror of the changing nature of Australian society
  - there are considerable populations of overseas students in some courses.
- There have been significant changes to the content of medical courses to:
  - reflect the explosion of medical knowledge and new developments in areas such as molecular medicine and genetics
  - address the agendas of evidence-based medicine and safety and quality
  - incorporate issues that health consumers and medical regulatory bodies cite to medical educators as areas of concern.

The AMC has seen most of this change as desirable, even necessary, to ensure that medical schools continue to produce graduates who are safe and competent to practise as junior doctors, are prepared for future training, and are able to perform the changing roles that the community requires of its medical practitioners. The state and territory medical boards, one set of significant stakeholders in the AMC process, are also looking to the medical schools. As the statutory regulators of the medical profession, the medical boards expect medical schools, as well as training highly competent medical practitioners, to engender in their graduates a set of professional values and attitudes that will enable them to be open to feedback and peer review, and to accept the increasing need for accountability to the wider community as the twentieth century model of self-regulation of the profession adapts to accommodate the changing expectations of society in this new century.

The students entering medicine in Australia's 15 medical schools this year will begin to work as junior doctors between 2009 and 2011, depending on the length of their course. Most will then enter specialty training, working under supervision as they move to independent practice as specialists sometime between 2013 and 2018 or beyond. Can we really afford this process to take so long? As well as reviewing medical courses provided by medical schools, the AMC now also reviews the specialist training programs provided by the colleges, and is talking with the Confederation of Postgraduate Medical Education Councils about linking in prevocational training in some way. There is a clear challenge for medical schools, colleges and the postgraduate medical councils to come to grips with the implications of the changes occurring at each of the various levels and to talk to each other to ensure that it really does become a continuum of medical education, which, at present, it is far from.

Graduates of the new medical courses introduced into Australia from 1995 onwards are entering the medical workforce now. The AMC is interested in how medical schools evaluate the success of these changes and the outcomes of that evaluation. It is also interested in the concerns that have been generated by the sea-change in medical education and in how these concerns are heard and, where appropriate, addressed. Two weeks ago, there was a conference in Sydney entitled 'Rescuing Medical Education', suggesting there is concern about some of the directions that medical education is taking. Many of the same topics will be discussed again at this conference, although I expect that the distribution across the spectrum of views here will be somewhat different. One of the challenges for us is to work out how to engage the wider profession, particularly those in teaching positions, in the change process and in the enthusiasm that we share.



# Introduction

The Committee of Deans of Australian Medical Schools (CDAMS) and the Australian Medical Council (AMC) are pleased to present the proceedings of the inaugural MedEd2005 conference 'Medical Education Towards 2010: Shared Visions and Common Goals'. The conference, held in Canberra from 7 to 9 March 2005, was the first of its kind in Australia to focus attention on undergraduate medical education as an integral part of the education/training/practice continuum.

The rapidity of change in medical education in Australia over the past ten years, prompted by reform in both the health and higher education sectors and by international developments in medical education, has often resulted in an apparent disjunction between the policy and pedagogical frameworks for medical education. In light of this situation, CDAMS and the AMC felt that there was a pressing need for an open, inclusive national forum to examine these recent changes, to develop a forward-looking approach to policy and educational planning, and to identify long-term goals and practical strategies for achieving them.

The aims of MedEd2005 included:

- Placing medical education on the agenda of health care reform in Australia, and building support and momentum for ongoing evaluation, review and reform of the health and education sectors.
- Providing a framework in which medical students can make significant contributions to the debate on medical education policy and its future development.
- Creating an environment for a consistent and unified approach to policy analysis and development through generating better understanding by all stakeholders of the educational, clinical and policy imperatives influencing undergraduate medical education.
- Producing a clear statement about the future for medical education and practical strategies for implementation to underpin future discussions on medical workforce planning, policy development, educational innovation, and high-quality health care services for the broader community.

Over 170 delegates and speakers participated in this inaugural conference, representing a broad cross-section of the major stakeholder groups and organisations in medical education in Australia. Fifty-seven organisations were represented in total, including staff and students from 19 medical schools in Australia, New Zealand and Fiji; plus representatives of 8 medical colleges, 22 national stakeholder organisations, 2 Commonwealth departments, and 6 state-based health departments (a full list of attendees is in Appendix 2).

The Committee of Deans of Australian Medical Schools (CDAMS) is the peak representative body for the deans of Australia's 15 medical schools and faculties. The committee also works closely with the deans of medical schools in New Zealand, Fiji and Papua New Guinea, providing a broad focus to the development of undergraduate medical education in the Australasian region.

The Australian Medical Council (AMC) is an independent national standards body for medical education and training. It assesses both medical courses offered by the Australian and New Zealand medical schools and the specialist medical training programs provided by the specialist colleges. The AMC aims to promote and protect public health and safety by ensuring a safe and competent workforce distributed across Australia to meet community needs.



The MedEd2005 conference was based on the 'Cambridge conference' model, where small groups work in an atmosphere that supports communication, information-sharing and intellectual exchange. The conference combined keynote addresses, panel sessions, facilitated group discussions and small-group work, to provide the opportunity for generating analysis, debate and consensus on issues identified as priorities.

#### **Cambridge conferences\***

Cambridge conferences are based on the concept of:

- choosing a topic of high importance
- inviting a small group of people knowledgeable about the topic, including 'young blood'
- adding a group of 'users' or policy shapers
- providing good facilitation and working conditions
- setting delegates some specific goals.

The first Cambridge conference was held in Cambridge, United Kingdom in 1984, to discuss the assessment framework for undergraduate clinical students in the UK. This conference brought together a large group of international experts (both the designers and users of assessment) to discuss recent innovations in assessment, the issue of competence versus performance, the assessment of problem-solving ability, and developments in clinical assessment at the postgraduate level. Among the outcomes was a concerted effort to answer some of the research questions generated by the conference. Following the success of this 1984 conference, a number of subsequent conferences based on the Cambridge model have been held around the world, looking at various aspects of medical education.

\* From Hays et al (2000). The Cambridge Conference: Background. *Medical Education* 34:782–784.

MedEd2005 started with a half-day session providing background on policy frameworks. Professor John Horvath, Chief Medical Officer of Australia, gave the opening keynote address on 'The Relationship Between Policy, Pedagogy and Practice in Australian Medical Education'. Two other keynote addresses over the ensuing two days provided further stimulus for discussion: Professor Angela Towle from the University of British Columbia, Vancouver spoke on 'Medical Education and Reform: The Canadian Experience', and the final keynote was delivered by Mr Bob Wells, Australian National University, on 'Visions, Goals and Outcomes: Challenges for Implementation'. A number of invited guest speakers participated in panel sessions focusing on topics including 'What is the Doctor of the Future?' and 'Where Should Medical Education be in 2010?' (see full transcripts of keynote addresses and panel presentations in the proceedings).

Over the two full days of the conference, delegates broke into 12 discussion groups, each focusing on a single topic divided into three main areas:

- building links between medical education and the health system (5 groups)
- professionalism in education and practice (2 groups)
- curriculum development, assessment and review (5 groups).

The conference organisers provided a set of questions for each group, designed to act as a starting point for discussion rather than as a prescriptive list of questions to be answered (see full list of topics and questions in Appendix 2).

Day two of the conference determined a future shared vision for undergraduate medical education. Members of discussion groups focused on their particular topic, developing their idea of how it might look in 5–10 years time. The concluding session of the day was an open plenary where discussion groups presented (in 4–5 minutes) three or four major recommendations for their future vision, together with the rationale behind each decision.

On the final day, the focus shifted to implementing the common goals by identifying innovative, practical strategies for making the future vision an achievable reality. The implementation strategies from the 12 discussion groups formed the basis of 8 major recommendations for the future (see Recommendations section). The recommendations reflect core issues that were common across a number of different topic areas, and which were identified as priority areas for action.

These proceedings summarise the presentations and discussions from the conference, and provide the background rationale to the final recommendations. The proceedings should provide a useful reference point and resource for further debate and planning for medical education at the university, state and national levels.

One of the most immediate and visible outcomes of MedEd2005 has been a greater awareness amongst all stakeholders of the intrinsic linkages between the different stages in medical education, training and practice, and a shared commitment to building further collaboration and cooperation across the sector. CDAMS and the AMC look forward to working with our peers, colleagues and partner organisations in realising the future vision articulated at MedEd2005.



The Committee of Deans  
of Australian Medical Schools



The Committee of Deans of Australian Medical Schools, the Australian Medical Council and the Conference Steering Committee gratefully acknowledge the kind support of the Australian Government Department of Health and Ageing for MedEd2005.



**Australian Government**  
**Department of Health and Ageing**

## Abbreviations and acronyms

AAMC	Association of American Medical Colleges
AFMC	Association of Faculties of Medicine of Canada
AHMAC	Australian Health Ministers' Advisory Council
AHMC	Australian Health Ministers' Conference
AMA	Australian Medical Association
AMC	Australian Medical Council
AMWAC	Australian Medical Workforce Advisory Committee
CACMS	Committee on Accreditation of Canadian Medical Schools
CDAMS	Committee of Deans of Australian Medical Schools
CME	continuing medical education
CPD	continuing professional development
CPMC	Committee of Presidents of Medical Colleges
DEST	Australian Government Department of Education, Science and Technology
DHA	Australian Government Department of Health and Ageing
NGO	non-government organisation
GP	general practitioner
GPET	General Practice Education and Training Ltd
LCME	Liaison Committee on Medical Education
MBS	Medicare Benefits Schedule
MCEETYA	Ministerial Council on Education, Employment, Training and Youth Affairs
NHMRC	National Health and Medical Research Council
OSCE	objective structured clinical examination
PBL	problem-based learning
PBS	Pharmaceutical Benefits Scheme
PGMC/PMC	Postgraduate Medical Council
PGY	postgraduate year (eg PGY1/Y2)
RUSC	Rural Undergraduate Support and Coordination
UBC	University of British Columbia



## The current picture





# The relationship between policy, pedagogy and practice in Australian medical education

**Professor John Horvath, AO**

## Background

Pedagogy, or the art of teaching, refers to everything that we hold important to ourselves and to our students — the theory, the practice and delivery of education. We want to produce graduates who, we hope, will not only be able to practise sound medicine on graduation, but will also contribute to the care of patients many years into the future.

Twenty years ago, most people, including the government itself, regarded the Australian Government as a reluctant payer in medical education and the provision of health services. It funded the MBS (Medical Benefits Scheme) and the PBS (Pharmaceutical Benefits Scheme), it made health care agreements, it gave money when required and it ensured that it was getting value for this money. Today, the government is interested in the delivery of care the quality of care, and what happens to the patient, making its role in tying these three things together very important. The policy of the Australian Government has shifted, and there is now an interest in the method of teaching and what the final product is, with the intention of contributing to a shared vision and a shared goal.

## The Karmel Report

Medical education has changed remarkably in the past 10 to 20 years. It used to be regarded purely as a domain of the universities. I think that the universities were unchallenged in the way that they taught, what they taught and where it all went. I do not think that medical boards would have challenged the right of the universities in what they taught.

In 1973, the Karmel Report was released. It represented the first intervention by government in medical education and, for the first time, some of the themes around 'manpower' emerged. Australia had a growing economy, high immigration rates and a growing birth rate. At that time, there were 8 medical schools, 878 graduates (with approximately 30% going to general practice), approximately 18,000 medical practitioners, and the doctor-to-patient ratio was 1:721. The view was that there should be an increase in medical manpower because of a perceived shortage of doctors. However, what was not counted was the unknown number of doctors who came in from countries with automatic recognition: the UK, Ireland, Singapore, South Africa, Malaysia (at times) and India (at times). These numbers were never included in the total intake, because they were not regarded as overseas-trained doctors; they did not have to sit for any assessment and they were automatically registered. The total number of these doctors is still unknown today.

## The Doherty Report

The Doherty Report, released in 1988, changed the ground rules. It not only examined numbers, but its precise terms of reference were to look into the 21st century. A wide spectrum of issues was covered, with substantial stakeholder input. The report:

- asked questions that, until that time, had been entirely the purview of universities, such as:
  - who would or would not attend university
  - how would students be selected
  - how would they be trained

- examined postgraduate education and vocational students
- made strong recommendations on what the curricula should and should not contain
- felt that the medical graduates of the future should be more attuned to the environment in which they worked, and should have better social skills
- discussed how medical schools should be funded
- discussed how the workforce should be distributed.

Regrettably, many people have not read the Doherty Report and are unaware of the impact that it had. However, many of its 184 recommendations continue to influence health policy in this country. Even at the time that the report was published, it was clear that the recommendations had wide political ramifications and they fuelled governments' interest in education policy. It became increasingly obvious that government would become involved in health policy service delivery, education and workforce. That said, the only committee that was set up in the early post-Doherty years was the Medical Workforce Committee. This committee included a range of people — such as deans, the immigration department, the AMC, health departments and the specialist colleges. It was asked to review medical workforce numbers, and to advise state and federal governments on medical 'manpower'.

### An oversupply of doctors

This was, of course, in a climate that regarded workforce in a totally different way. In the 1980s, after the Karmel Report, there was the perception that there was an oversupply of doctors, rather than a shortage. At this time, there was unrestricted entry of overseas-trained doctors and there were spiralling Medicare outlays. The costs to Medicare far outstripped the inflation rate as well as the growth in population, and there was a general view that there were too many doctors and too much overservicing. This is where government policy can be seriously misled. The doctor numbers were head counts, but were not numbers of those in clinical practice or full-time employees. In addition, the wrong number was being used (for example, Medicare outlays were used, rather than any other measure). The Medical Workforce Committee took numerous (reasonably odd) recommendations to the government, because it was believed that a ratio of one doctor to 250 people was correct (an approximation somewhere in the middle of the Organisation for Economic Co-operation and Development range of doctors).

Many of you will have been involved in various strategies to reduce doctor numbers. The first was to reduce the medical student intake from 1200 to 1000 — a strategy that was never implemented, due to three years opposition by the deans, through two health ministers. Almost as unspectacular was the government's attempt to curb the overseas doctor supply, which caught the AMC in the middle, with various failed attempts to introduce restrictions. Perhaps the most spectacular failure was the view of the health ministers that temporary-registered doctors were unnecessary, and the Commonwealth was persuaded to pass legislation that no temporary-registered doctor would be recognised as a doctor from 2000. Nonetheless, before it was enacted in 2000, the legislation had to be repealed because the doctor shortage and overall workforce issues became paramount. I think that approximately 750 temporary-registered doctors are in the system now. So that gives you an example of how to get it wrong.



At the same time, there was a view that this was an opportune time to examine some of the areas around general practice and, clearly, many of the issues around general practice are where the Commonwealth first thought that it had sufficient levers to regard training in terms of quality, workforce integration and financing. These were early days, where some of the motives were mixed, some were focused on quality and education, and some tried to deal with the perceived oversupply.

To address oversupply, restrictions were placed on the practice of overseas-trained doctors. Vocational registration was introduced and subsequently the provider number legislation. This legislation has been debated over the years, but was not intended, at that stage, as a workforce tool — although it came to be used as one later. At that time, the colleges' view, which was supported by the AMC, was that it was not appropriate for people in their second postgraduate year (PGY2), or even perhaps in their PGY3 year, to go out as unsupervised locums in the middle of the night. It was considered essential that there be appropriate training for unsupervised practice, although the provider number legislation did meet with substantial conflict as it was implemented. I think that the provider number legislation was a reasonable piece of government legislation that was badly mishandled but, fortunately, stayed in place and remains a good lever to ensure quality education across the trends.

To address maldistribution, there has been a raft of programs, some of them involving the universities directly, and some of them using more coercive measures, such as items numbers to overseas-trained doctors. There have been rural incentive programs, and I think that the tremendous outcomes of the rural medical schools are the sign of an outstanding success. There have also been grants and extra training. Overall, there has been a significant increase in rural general practitioners, which has started to flow through to some specialist areas. The Australian Medical Workforce Advisory Committee (AMWAC) review of where people intended to practise in the future highlighted that a rural experience (defined as an aggregate of six months or more of training in the country), indicated a much higher chance of eventually practising in the country. If this is true, then I think that it will be an excellent outcome.

So, finally, the general practice strategies that were originally used to curb escalating Medicare costs have now sparked a much more sensible approach, where the government is interested in working with the universities and colleges to produce quality education.

### The future of medical training

What are the realities of the practice that we are going to train our graduates for in the future? The intergenerational report is alarming: we are going to grow older and older, and there will be fewer and fewer young people to look after us. Rural health remains a major issue, because if we cannot provide quality health care where the shrinking rural population is, that population will continue to decrease. Another interesting side issue is that the local rural hospitals are major employers in the towns, and when one folds because the doctor has left, it escalates events further.

In recent weeks, we have seen some of the problems of mental health. It accounts for 20% of the chronic disease burden in Australia and in westernised countries, and most probably worldwide. Mental health also probably accounts for 30% of nonfatal comorbidities. I think that no government, state or federal, has successfully worked out how we are going to manage the raft of issues raised by mental health problems in the community, including those that are comorbid with other illnesses.

As we have heard, the health workforce continues to be a problem and a challenge, as does the whole area of population health and prevention and the issues around surgical waiting lists. Saving dollars through adequate and sensible public health and prevention policies is crucial. A review published by the Australian Government in 2004 showed that the economic benefit of health prevention and the dollars saved by antismoking campaigns, as well as things like seatbelts and helmets, are enormous. We must make similar inroads into things such as diet, obesity, and type 2 diabetes.

Instead of merely shovelling dollars out the door through the PBS, the MBS and the Health Care Agreements, the government is looking at a raft of these issues. With the rise of chronic disease, which makes up a substantial burden of disease, we are currently being tasked by health ministers to develop a national chronic-disease strategy. This is an Australian Government initiative that will report to ministers in July 2005. It will attempt to identify the disconnections that severely disadvantage patients and make the system unwieldy. When someone suffering from a chronic disease leaves hospital, the resources to treat them in the community are either nonexistent or are not easily accessible. In the Swedish model, the admission of a diabetic to hospital is regarded as a treatment failure, which is a direction that we should be taking. If we are going to cope with the huge group of patients suffering from chronic diseases (including asthma, diabetes, cancer and heart disease), we must have a strategy that is seamless and that will flow through directly to the way in which the treatment of these diseases is taught in medical school. The strategy must also examine how other health vocations are managed in the system, because diseases are no longer the domain of the doctor, but, instead, the domain of their multidisciplinary team, and we need to change the training of medical students to reflect the changes in care management, from acute episodic to the whole system of care. This means changing medical education across the entire continuum.

We need to rethink the whole area of where medical training and delivery is going to be. There is now a significant misalignment between education and service. Thirty years ago, most of the illness that we taught was in the hospitals; now so little of it is. There is a lack of alignment between where education can be sought and where service delivery is. Medical school education has moved more quickly than some other parts of vocational training in realising that this is an issue. Medical schools have been sending students into the community and practices for some time, but there continues to be a significant disconnection. What are we going to do about it? We must rethink the way in which we train. We are trying to examine where the illnesses are, and remove the narrow confines that doctors and nurses have had to operate within, as they are no longer appropriate. We need to look at a much broader and more flexible model that takes into account the fact that chronic disease is 80% of what we are going to treat. We need to look at a variety of training models, not just the familiar ones. We also need to address the lack of clinical material. We often hear that there is no clinical material in teaching hospitals, which is, unfortunately, true. At a recent meeting of the College of Surgeons, I asked how a surgical trainee knows what a breast lump feels like, because surgical trainees do not come into the teaching hospitals. There are few outpatient clinics, and certainly few surgical clinics. So, where does the medical student of today have an opportunity to feel a breast lump and know how to treat it? The chances are that this lump is detected by the general practitioner, if not the patient herself. The patient goes to a breast surgeon and it is either aspirated or removed before chemotherapy, and the whole experience is very difficult to teach.

## Report of the medical specialist training taskforce

In 2004, I put these problems to the Australian Health Ministers' Advisory Council (AHMAC). In response, we were given support to establish a medical specialist training taskforce, based on the follow-up of a report prepared by Professor Peter Phelan for governments, which clearly outlined the huge deficiencies in training experience across the board in most vocational specialties. If you take dermatology as the best example, 96% of all dermatology is practised in the private sector, so learning dermatology is difficult. Dermatologists took this on board many years ago and privately financed their vocational trainees to work in two cities. The private sector and a number of groups, including surgeons and physicians, have tried various experimental models, but there is not a cohesive, sensible way forward. So we were given the remit to examine where teaching occurs across the health spectrum, including public hospitals, private hospitals, practices, regional–rural settings and the community.

The first report of the taskforce outlined a whole raft of barriers to progress and examined everything from industrial issues to indemnity, to impediments to efficiency and compensation for doing things in the private sector. It also started to engage the private sector. At the same time, the report looked at issues around curricula, and made some recommendations that there had to be robust educational structures put in place and that this would cost money, although the report did not put a figure on it. It was agreed that this was an appropriate way forward and we were commissioned to take this further. There is now a committee looking at this with a view to finalisation by the beginning of 2006. The proposed training model is going to look at training to match where the service delivery is. Not only is it better for the patient, but it will also expand training opportunities dramatically. I believe that it will improve the standards of care across the board, and will use the whole patient experience that exists.

## Future challenges

One of the challenges that we face as medical educators is that we are not only training for the present, but also for what is going to be a normal part of one's practice. There is a whole range of emerging equipment, medicines and technologies that we must be able to teach. Our basic educational building blocks must be robust enough so that the medical practitioners of the future can incorporate new ideas into well-systematised continuing professional education.

The next challenge is that doctors are intrinsic individualists. We are not great team players and if we are playing in a team, we want to be the head of the team. As one of my cardiothoracic surgical colleagues once said to me, 'Cutting a chest open and doing coronary artery surgery is not a team sport and no-one is going to tell me where to put the suture.' So I asked him whether he kept the patient asleep, applied the swabs and drapes, and did the instrument count. However, the management of chronic disease is going to demand that we are better team players in the future. Occasionally, we might not have the most knowledge of a particular treatment at that particular time, which is going to be a major educational imperative and a challenge to some of the current views.

Where are we going to train? For the past 20 years, most of our medical education has been focused at the pinnacle; however, we seem to forget that few people can congregate at the top, and many people had to work very hard to get those few people to the top. We need to consider who we are training, and for what. I have no doubt that if any of us present today required dilation of the most distal branch of our left coronary, we would consider only one person in Victoria or New South Wales for the job. Similarly, if we have our third hip replacement, we know just the person who does nothing but hips. I am not saying that we need superstars who sit at the peak, but I challenge you that perhaps

our role models are such people, and we need to think carefully about providing a broader range. I have had numerous discussions with my colleagues in the College of Physicians about the lack of general physicians, training opportunities, and more diverse role models. How are we to establish appropriate careers and career structures for people other than those right at the top? This is something that we need to explore.

### Conclusions

In conclusion, we have a number of important things to do. It is crucial that we encourage good, basic, rigorous science in our medical undergraduates, which will require time, commitment and money. At the same time, we need to train medical undergraduates to work in a team and understand their role within the team, their role while practising with patients, their role as health professionals in the community, and their effective use of health resources and where it fits in the bigger picture. I think that we have failed in this regard to date, and I think that the lack of resources for preventive care and population health is an underlying reason, because the 'people on top of Mt Everest', often with the loudest voices, manage to secure most of the resources.

I think that the challenges ahead are awesome. I think that you, as deans, medical educators, and people involved in medical education at the postgraduate level (be it the postgraduate medical councils or the AMC), face a struggle between academic independence, the needs of society and society's expectation as to what will be delivered and how we will include them in the debate. Government has genuine concerns about workforce, quality of care, and how and when it spends its dollars (be they state or Commonwealth). The best and most efficient outcomes must compete with the political realities that drive government decisions. We cannot cry too many tears about such decisions, just as we, as academics, sometimes do things because we believe that it is the correct thing, even if it does not make sense to anybody else.

We are going to have to work with many individual tensions if we are going to maintain a shared vision and a shared goal. I think that one of the outstanding examples of where this has failed is psychiatry. Mental illness, as I have mentioned, is a major burden of disease and desperately needs help. People say that now is the time to change things; however, you actually have to change them yourself.

# Medical education and reform: the Canadian experience

## Dr Angela Towle

This presentation will examine the big-picture issues and the drivers for reform in medical education in Canada. It will also make a case study of the medical school at the University of British Columbia (UBC), to illustrate how we have planned and implemented innovation in response to some of the drivers at the national level.

### **The Canadian medical education system**

There are 17 medical schools in Canada. The basic medical degree course in Canada is four years, leading to the MD degree, although two schools have a three-year program. Most students have at least one degree before they enter medicine and, upon graduation, students go into postgraduate specialty training for a minimum period of two years for family medicine, or longer for the Royal College specialties.

Medical education, like health care and education, is funded by provincial governments (the Canadian equivalent of Australian state governments). Federal government has almost no role in health or education, apart from some transfer of funds to the provinces. The number of seats available for medical education is determined by the provincial governments on the basis of educational and financial resources, as well as physician workforce requirements. As in other countries, there are also many other organisations that play a role in the organisation of medical education.

Accreditation is a joint process between the United States and Canada, so each medical faculty must meet the required accreditation standards as mandated by the Liaison Committee on Medical Education (LCME) (the United States body), and the Committee on Accreditation of Canadian Medical Schools (CACMS) (the Canadian body).

Accreditation is one of the responsibilities of the Association of Faculties of Medicine of Canada (AFMC, formally Association of Canadian Medical Colleges). The mandate of this body is to set standards for medical education, develop national policies, foster research and represent Canadian faculties of medicine to key agencies. The Medical Council of Canada is responsible for licensure examinations that provide a qualification to practise medicine across Canada. The Part 1 examination is taken as students graduate from medical school. Part 2 is undertaken approximately 18 months into the residency program. The requirements for postgraduate training are the responsibility of the Royal College of Physicians and Surgeons of Canada for the 60 areas of specialty training, and the College of Family Physicians of Canada for family practice.

### Drivers for reform

There are several drivers for medical education reform in Canada at the national level. Two recent reports provide a road map for reform and renewal of Canada's health care system: the Commission on the Future of Health Care in Canada (the Romanow Report, 2002), and the Kirby Report (2002)<sup>1</sup> from the Senate Standing Committee, which examines the federal government's role in health. Both reports acknowledge that the Canadian health care system has served Canadians well and provides quality care, but requires immediate action in certain areas to avoid crises. They highlight the need to address the future of Canada's health workforce by tackling immediate issues of supply and distribution to allow the country to become self-sufficient in health human resources.

As a consequence of these reports, the Council of First Ministers established the Health Council of Canada, an independent body that informs Canadians on health care matters while promoting accountability and transparency. The council's first annual report, published in January 2005, states that reform in several key areas must be accelerated, including the training of sufficient numbers of health professionals, providing closer-to-home care for Aboriginal people, and strengthening and restructuring primary health care.

The reports include several main points relating to medical education, including:

- health professional supply and distribution, already being addressed by medical schools
- Aboriginal health, particularly the appropriate training of health professionals, promotion of health careers and the inclusion of Aboriginal health issues into curricula
- patient safety which, in the reports, is linked to the use of information technology, including electronic health records and electronic prescribing
- primary health care reform, including new delivery models and changes in scope of professional practice
- interdisciplinary practice and education to facilitate changes in delivery services
- evidence-based practice, especially in relation to prescribing
- information technology (including telehealth) as a facilitator.

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<sup>1</sup> Kirby JL. The Health of Canadians — the Federal Role. Final report on the state of the health care system in Canada. Standing Senate Committee on Social Affairs, Science and Technology, October 2002.

### Physician supply and distribution

In the early 1990s, the consensus was that Canada had a physician surplus, and policies aimed to control supply and growth by reducing medical school enrolment by 10%. By the end of the 1990s, the consensus had shifted to the other extreme: Canada faced a physician shortage and, most recently, this has been framed in terms of a crisis. The most obvious response to the supply problem was to increase medical school enrolments. In general, enrolments decreased in the 1990s before increasing in 1999, and they continue to increase. However, reduced enrolments in the early 1990s had a minimal impact on the decline in physician inflow. Instead, the most significant factor was the increase in the length of postgraduate training. Thus, although increasing enrolment has been seized on by the medical profession and government as the solution to the problem, the problem of physician supply is more complex than just increasing medical school enrolments.

There is an implicit assumption in the requests for enrolment increases that things will be done in the future as they have been done in the past. Different models of care that may reduce the need for physicians, such as nurse practitioners in primary care, have been resisted by physician professional associations.

Increased enrolment will not address the longstanding shortages in rural and remote areas, which are another area of intense public policy activity. The overall physician shortage in rural and remote areas is exacerbated by the steady decline in the proportion of family practitioners. The proportion of students selecting family medicine for residency fell from a high of 44% in 1992 to 25% in 2003 — the lowest percentage ever. As in Australia, studies in Canada indicate that rural physicians are five times more likely than their urban counterparts to come from a rural background.

These studies have led to a focus, not only on medical school admission criteria, but also on initiatives to create a pipeline into medicine for rural students, beginning in high schools. They have also led to new models of medical education, as exemplified by the new medical school that is being established in northern Ontario, and the distributed model of medical education at UBC (see below). Both these schools are explicitly designed to address the health care needs of northern populations, and both are high profile government-supported initiatives, involving partnerships with universities.

### Social accountability

The Association of Faculties of Medicine of Canada (AFMC) has adopted the social accountability agenda as its unifying vision for academic medicine. At its 2003 annual meeting, the AFMC endorsed the World Health Organization framework for accountability, known as the partnership pentagram. The framework is centred on the community's needs, which are reflected by the health system. The framework includes policy makers, health professionals, academic institutions, communities and health managers, all of whom share complex interrelationships. Subsequently, the AFMC has set up a partners' forum on social accountability so that it can directly engage with key stakeholders in the partnership pentagram to address the priority health needs of Canadians. At its inaugural meeting in April 2004, the forum agreed that its initial focus would be Aboriginal health. Whether this body is effective beyond the rhetoric remains to be seen; however, some of the issues that come from the social accountability framework and their implications for medical education relate to partnerships between different stakeholders, an emphasis on the needs of underserved populations, and the education of students to provide and care for underserved populations, including Aboriginal people. The profile of students entering medicine and their career choices, including the impact of tuition fee increases, is a major issue in Canada. Quality assurance includes the maintenance of competence and a focus on professionalism, which is defined by the AFMC as the moral understanding that underpins the social contract between the profession and the public.



### Educational reform in the United States

The final driver for reform in medical education in Canada comes from the United States. While the medical education debate in Canada has focused on physician supply and distribution and social accountability, the imperative for change in the United States stems from perceived deficiencies in the current system of medical education. However, because the accreditation system is shared between both countries, these reforms are likely to impact Canadian schools directly.

The imperative for change arises from a series of influential reports that address medical education reform to meet the projected health needs of the 21st century. The starting point is recognising deficiencies in patient care delivery, which is subsequently related back to the education of health professionals. Three of these influential reports were produced by the Institute of Medicine:

- *To err is human* (1999)<sup>2</sup> analyses the problem of preventable medical error, concluding that tens of thousands of Americans die each year as a result of preventable mistakes in their care. The report includes a comprehensive strategy that government, health care providers, industry and consumers can follow to reduce medical error. The patient safety and quality agenda was developed in two further reports from the Institute of Medicine, which address deficiencies in health professions education more explicitly.
- *Crossing the quality chasm* (2001)<sup>3</sup> identifies six aims for improvement that should be emphasised during professional training. These aims are built around the core need for health care to be safe, effective, patient-centred, timely, efficient and equitable.
- *Health professions education: a bridge to quality* (2003)<sup>4</sup> provides a more explicit vision for health professions education, the goal of which is an outcomes-based education system that better prepares clinicians to meet both the needs of patients and the requirements of a changing health system. Its focus is integrating a core set of competencies into health professionals' education, not just medical education.

These core competencies include patient-centred care, interdisciplinary medicine, evidence-based medicine, quality improvement and informatics. The report identifies the oversight organisations responsible for accreditation, certification and licensure as the most important levers for change. Most of its recommendations are directed at integrating core competencies into accreditation and credentialing processes across the professions.

Other influential reports, in addition to the Institute of Medicine series, have appeared over the past five years. The first of these, from the Commonwealth Fund Task Force, looks specifically at the role of academic health centres and the extent to which they meet their educational roles. Their recommendations emphasise the need to improve the quality and consistency of clinical education, measure costs, stabilise funding for medical education and increase the support for, and value of, teaching.

The Blue Ridge Academic Health Group is a group of individuals with leadership positions in academic medicine in the United States. Their report highlighted the many organisations that influence medical education, while working independently of each other to adopt policies and positions on matters affecting medical education. The group believes that the Institute of Medicine's approach to effect reform through oversight organisations requires an earlier step in order to streamline and consolidate the existing unwieldy regulatory framework.

<sup>2</sup> Institute of Medicine (1999). *To err is human: building a safer health system*. Washington, D.C.: National Academy Press.

<sup>3</sup> Institute of Medicine (2001). *Crossing the quality chasm: a new health system for the 21st century*. Washington, D.C.: National Academy Press.

<sup>4</sup> Institute of Medicine (2003). *Health professions education: a bridge to quality*. Washington, D.C.: National Academy Press.



The reports from the Institute of Medicine greatly influenced the most recent report from the Association of American Medical Colleges (AAMC), which clearly sets out the future medical education agenda in the United States. The AAMC report acknowledges shortcomings across the continuum of medical education, including undergraduate, postgraduate and continuing medical education (CME) levels. At the undergraduate level, there is little fundamental change in clinical curricula: clerkships are still traditional, and teaching and assessment of clinical skills are still inadequate. Postgraduate education also appears to be inadequate in preparing residents for future responsibilities, because it is largely based in inpatient services of major teaching hospitals with the majority of time spent in the care of patients suffering from acute episodic illnesses. The report notes the need to shift the accreditation focus from process measures to educational outcomes, particularly in relation to the standards of achievement of core competencies. CME has been largely ignored in previous medical education reform efforts, although it is now recognised that effective CME is necessary to improve the quality of care, and there is also a need to focus accreditation of CME activities on those that change physician behaviour.

The AAMC report also notes that many of the shortcomings are deeply entrenched in the tradition and culture of the medical education system's institutions and organisations. The major barrier to change is the sheer number of independent stakeholders that need to work together. Many of the themes emerging from the United States are similar to those from Australia. The impact is already being seen, as accreditation standards are altered to meet the pressure for reform. For example, new standards relate to outcomes as well as the process of education and the need for undergraduate, postgraduate and CME to be linked.

## Case study: University of British Columbia

### Background

The pressure for change is being translated into action at UBC through a new education system. UBC has the provincial mandate to educate physicians and, over the past five years, we have expanded and distributed our undergraduate and postgraduate programs to meet the complex health care needs of the province. The expansion is being done in partnership with the University of Northern British Columbia in Prince George, the University of Victoria on Vancouver Island and UBC. It is a unique, collaborative model based on partnership, not only with these three universities, but also with the provincial government and the six regional authorities — five of whom are regional geographic, with the sixth a province-wide service of specialist care.

This academic year, we have increased our enrolment by 72 students, for a total of 200 first-year students, with another increase of 24 students starting in 2005. Of these new students, 24 are entering the northern medical program, 24 are entering the island medical program, and the remainder are entering the Vancouver/Fraser mainland program. All students are based in Vancouver for the first semester, before moving to the geographically distributed sites in the island and the north where they will spend the majority of the rest of their education. All students will graduate with a UBC degree; the objectives and assessment processes are the same across the programs. In addition to increasing undergraduate enrolments, we are also increasing postgraduate enrolments. This ensures that, by the time our 72 extra students graduate in 2008, there will be sufficient new postgraduate places available for them to move into. These postgraduate places are being distributed throughout the province.



### Distribution and expansion

All the students in Years 1 and 2 will be based at one of the three university sites: UBC, the University of Victoria or the University of Northern British Columbia. In Year 3, the students move into their clinical clerkships program and are based at one of our major clinical academic teaching sites, which include traditional teaching hospitals as well as new teaching sites such as the Victoria General Hospital, the Royal Jubilee Hospital, the Prince George Regional Hospital and new sites in Kelowna (another major population centre). Beyond that are two types of affiliated regional centres. Type 1 regional centres are small hospitals throughout the province, where small numbers of students will complete their core clerkship programs. Type 2 regional centres are in more remote, small towns, where one or two students will be based for a core clerkship program, electives or senior clerkship experiences.

The reasons for our expansion relate back to the shortage of health care professionals in rural and remote regions, disparities in access to health care, and health outcomes for people in rural, remote and Aboriginal communities — particularly in the northern regions of our province. The aim is to attract more rural students into medicine, because they are more inclined to practise in rural communities. Students will be educated in a variety of settings that reflect current and future health care practice in British Columbia, and the curriculum will address health care issues and strengths that are relevant to local communities. Our mission statement explicitly includes the notion of social responsibility for the health needs of British Columbians, and it is followed through in the core principles of our program.

The initial impetus for expanding medical education in northern British Columbia was provided in June 2000 by 7000 people who attended a health rally in Prince George and other health rallies in the north. A major theme was the need to ensure a supply of physicians trained to meet the health needs of northern British Columbia. Gordon Campbell, the current premier, promised to double the medical class size within 10 years and ensure that at least 10% of those students would complete a majority of their medical education in the north, with a focus on rural and remote medicine. In addition, at least 10% would complete the majority of their medical education on Vancouver Island with a focus on the health needs of an ageing population.

In January 2001, the Dean of Medicine and Vice-President Academic at UBC published a vision paper that described a distributed model for medical education in British Columbia, based on collaboration with partner universities and regional clinical campuses. The University Presidents' Council of British Columbia formed a regional planning committee across the three universities with representation from the Ministry of Advanced Education and Ministry of Health. This committee formed a planning committee for the northern medical program, co-chaired by UBC and the University of Northern British Columbia, to determine feasibility and develop planning models. This process included many meetings and consultations, as well as a review of different models of medical education, and resulted in a tabling of a report at the end of 2001. A similar planning process for the island medical program followed. Subsequent funding commitment was given by the provincial government in March 2002. The funding supported capital infrastructure to provide new buildings on three university campuses (worth approximately \$135 million), as well as start-up funds of \$18 million and operating funds of \$11 million, increasing to \$28 million in 2008. We decided not to make any major changes to the curriculum, but to focus instead on how to deliver the current program over three sites (or more, when it comes to the clinical years). The use of technology was identified as a high-risk area, especially for videoconferencing lectures across the three sites.

One of the major features of the planning process was the development of affiliation agreements between the three universities to cover issues such as faculty appointments, research and intellectual property, governance and control of the curriculum and visual identity. We initiated a series of meetings with the Ministry of Health and the provincial health authorities and signed affiliation agreements and academic space protocols with the health authorities. The health authorities also identified a number of issues that were of relevance to them, to be addressed as part of the expansion planning and thinking, such as space, cost, and putting medical education into centres that were already challenged in terms of service delivery and physicians' workload.

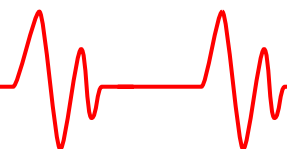
### Implementation and accreditation

As we moved towards the implementation phase, we developed new admissions policies and procedures. These included a rural-remote suitability score to evaluate students' suitability for medical training in rural settings. We introduced a new interview process that included representation from more than 90 academics, clinicians and community members from all areas of the province. We also introduced a new admissions policy for Aboriginal students.

Another important milestone on the way to implementation was a series of pilots, culminating in the Prototypical Week. We sent eight volunteer first year students to Prince George and eight to Victoria and delivered a week's curriculum following the model that we anticipated using for the distributed program, with a focus on testing the technology. However, this was also a test of the proof of concept for the distributed model. We also began early piloting of our clinical clerkship programs. In March 2004, we were accredited. Our UBC curriculum was already fully accredited, but we required new accreditation for the distributed model. We used this as an opportunity to bring together some of our university partners who were unfamiliar with accreditation standards, and it was a useful lever for focusing attention towards the program's delivery. The accreditation standards emphasise that students in alternative instructional sites must have a comparable educational experience and equivalent methods of evaluation.

The accreditation bodies also provided useful advice. For example, through discussion with them, we realised that we needed to pay more attention to student affairs than we had originally anticipated. In October 2004, the Ministry of Health requested an integrated undergraduate and postgraduate project plan and budget to assist them in making the funding and policy decisions necessary to advance medical school expansion. This resulted in government funding of \$28 million to develop academic teaching space in clinical teaching sites throughout the province. Currently, we are engaged in an integrated planning process between undergraduate, postgraduate and CME to identify which hospital sites across the province will be selected as our affiliated regional centres.

In January 2005, our distributed program began with the students in Prince George and Victoria. We are now two months in and, so far, things are going well, primarily due the enormous amount of planning and piloting that went on in advance.



### Outcomes and lessons learned

Finally, I would like to discuss some of the lessons that we learned from our planning process and implementation. First was the length of time that it took. Our process was as short as possible, particularly because we were charged with delivering the premier's vision, which began in 2000, in 2005, the election year. However, even with substantial financial assistance from the government, it will be a decade before we will see the results of the vision.

The second lesson is that there is a real need to manage the different expectations that arise from having different partners involved in the process. There are pros and cons to having government involvement, such as receiving substantial funding, which is coupled with pressure to deliver on time and within budget. Other benefits included community support, including fund-raising by northern communities to support students to attend the program. Conversely, the communities have high expectations that those students will stay in the community, even though we make it quite clear that students should be able to choose the location and type of program in which they would like to specialise.

Similarly, other partnerships have both pros and cons and require constant attention. I will illustrate some of the lessons that we learned through our university partnerships, but there are similar ones through our partnerships with health authorities. Problems to be overcome include suspicion of the agendas that are in the mix: does the University of Victoria really want its own medical school or is it serious about a partnership with UBC when the universities have been longstanding rivals? Cultural differences must be managed. The three universities have different cultures. The health authorities have different cultures. How we work within these different kinds of organisations has been a great challenge and also required us to change our own culture at the medical school, which takes time and energy. There is a tendency towards finger pointing if things go wrong, instead of acknowledging that it is a problem for all of us. Particular conflict points requiring attention include the distribution of faculty positions, affiliation agreements about intellectual property and faculty appointments, and budget allocation. Partnerships are helped by being explicit and transparent in policy, procedure and decision making, combined with strong leadership. Using accreditation wisely as a lever for change or a lever for bringing the partnership together is also essential. Respect for the different contributions that the partners bring can also enhance the experience for everyone. It is also important to clearly identify the issues that can be dealt with at face-to-face meetings, as opposed to those that can be dealt with by videoconference or teleconference. Managing conflict is best done through face-to-face meetings. Good communication is paramount.

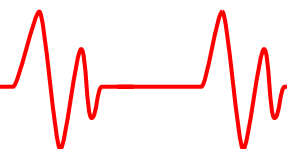
The complex and integrated planning processes required professional project management to meet tight timelines. And finally, piloting was important in making the transition from planning to implementation and to demonstrate what we were doing to people who had concerns, to demonstrate to ourselves, to test high-risk areas such as technology, and to build confidence in the process.

## Conclusion

In conclusion, I have described how the faculties of medicine across Canada, and British Columbia in particular, are responding to the drivers for change of physician supply and distribution, social accountability and curriculum reform, through innovations in admissions, structure and content of education and location of programs.

The final question is: what will be the impact of these strategies? At UBC, we have established an evaluation studies unit, which is responsible for evaluating the immediate and long-term outcomes. Evaluation is based on a comprehensive conceptual logic model that will allow us to document the ways in which expansion and innovation in our medical programs enhance human health resources and community capacity. The first part of the logic model examines immediate outputs in relation to aspects of the curriculum, faculty, students, facilities and funding. It also examines the process of education and the outputs by standard measures and benchmarks. It takes us up to the students who graduate. The next part of the model looks beyond to the postgraduate program and intermediate and long-term outcomes, in relation to the future and location of our graduates after they complete postgraduate training. It also examines the impact on clinical care access, and goals for reducing health disparities and enhancing community capacity.

It will take time before we can discover whether the strategies that we are introducing now will make any difference to the ultimate goal. However, the process has shown that it is possible to bring together the different stakeholders in medical education, including community, government, universities and academic medicine, to attempt a coordinated approach to planning and implementation of major change.





## The shared vision of medical education



MedEd2005







# The shared vision of medical education

A number of recognised experts participated in two panel symposia on the opening and closing days of the conference. The speakers came from a diverse range of stakeholder groups, and were given the brief of canvassing views from within their constituencies to address two topics: 'What is the doctor of the future?' and 'Where should medical education be in 2010?'

## What is the doctor of the future?

### Professor Peter Brooks, University of Queensland

I am not sure whether I am supposed to be presenting the medical deans' view but, to clarify things, I am not. This is my own view of life. I will highlight a few things that I have focused on over the last few years. The first thing is that we have a superb system of medical education in this country. But this does not mean that we cannot do better.

#### Future doctors?

I think we are going to see more superspecialisation, but I think John Horvath was right in saying that generalists are something we have to grow again. Whether it's the general practitioner or the hospitalist, doctors of the future will have to manage this very complex system and help patients through it. Then there are going to be great communicators of health trying to move the agenda into health promotion, disease prevention and getting patients to take much more control, particularly in chronic diseases.

#### Do we need more doctors?

I don't think we need too many more doctors. We might need a few more, but they will need to be different. They will need to:

- be members of a team
- learn in an interprofessional/multiprofessional environment so that they might work together better once they graduate
- have 'ego-ectomies' before graduation
- have strong communication skills
- have an interdisciplinary focus on teamwork and be synthesisers of health information to a large extent; and also be people who can concentrate on the highly sophisticated practical issues, manage change and maintain flexibility.

### Future doctors will be liberated by other health workers

The general practitioner will be liberated by the nurse practitioner to be able to do the sorts of things that they are really interested in doing. The radiologist will perhaps be liberated by the radiographer who is going to screen the chest X-ray, so that the radiologist can get on to the things that turn them on, such as catheterising coronary arteries. We have really got to define, in looking at workforce, what is done: what doctors do and what doctors don't do. This is a difficult thing to do, this task of liberation, and again this is very hard for me to say and I really haven't got this comment right — 'splitting' the technical part of medicine. Now I don't mean the technicians don't think. However, I think that when we are thinking about training, we have to think of the cognitive issues and we have to think of the technical issues as something perhaps slightly different. We need an icebreaker and, hopefully, this conference can come up with models we can move forward on.

### Vertical integration

In terms of education, I think we have got to look at vertical integration. It is crazy to have at least three groups looking at the continuum of medical education in this country. We are not that big. We have got to shorten training in some things. As a society, we cannot afford to spend 15 years training someone who is going to spend all day looking into somebody's knee joint or doing one operation or one procedure. I think now, particularly with the graduate entry courses, we must look at early specialisation and recognition of prior learning. With a much more flexible system, we could take people who really want to be proceduralists and train them to be proceduralists, and accept the fact that if they want to do anything else in life, they have got to go back and retrain. If your retraining course is two years rather than 15 years then you might be able to look at that. One thing that I support about the American system is a three-year general degree which gives people a rounded general education in the social sciences, in history and language. This is the sort of thing we should be doing before some sort of graduate entry program. We need to be looking at specialisation at an early stage, and looking at graded and continuing education and task orientation, particularly in the postgraduate years.

When I look across this room, we have the power of the water flowing over Niagara Falls to actually do something about this. What we have to be willing to do, though, is to leap over the top and swim like hell.

## Ms Dana Stanko, Australian Medical Students' Association

I will provide three perspectives on the doctor of the future. The first one is as a final year student at the University of Western Australia, the second is as a student involved in various medical education forums and the third is as a representative of the only national organisation for medical students in Australia.

### Doctors of the future must be adaptive ...

When I was a first-year student (and that is not too long ago), I remember being in a lecture. I don't remember much of that lecture, but I do remember that the lecturer was talking about cytokines. And his point was that he himself had just recently learned about cytokines. That got me thinking about what I would be learning when I graduated from medical school that wasn't taught at medical school. What I learned from that lecture was that the doctor of the future needs to be an adaptive individual who knows where to find new information. They need to be able keep up with relevant information but also be aware of what their patients are being fed through the media and the internet.

### ... knowledgeable

More than ever, patients are turning towards alternative forms of therapy. This was illustrated to me during my obstetrics and gynaecology term where many women would come in with studies (especially newspaper articles), asking for reassurance, and then turn to alternative therapy because they weren't given enough answers. So, for this reason, the doctor of the future needs to be knowledgeable. Basic clinical sciences will serve as not only the platform to build that knowledge from, but also to fall back on, for future practitioners when assessing new medical breakthroughs. The future doctor who is knowledgeable and adaptive must be able to address all forms of available therapy on the market for their patients and be in a position to be able to provide their patients with appropriate information.

### ... good communicators

Being knowledgeable and adaptive, however, is not enough. To convey their message and increase patient compliance, the doctor of the future must be able to communicate effectively. If we are to believe what people say about specialists, we should all be practising our golf swings (with the advent of technology, hopefully we will have time for this!). Technology in every industry is progressing rapidly and medicine is no different. In 15 years, some of our practices and the foundations they were built upon may well be obsolete. So from a student perspective I can quite easily say that computers and medical technology will form a large basis of my practice and learning.

### Who will the medical practitioners of the future be?

The future medical practitioner will be knowledgeable, a good communicator and technologically savvy. They will be more aware of the needs of their families and themselves. They will want more time to pursue other activities in life. A recurring theme amongst graduates choosing specialist training is the lifestyle factor. This is not just something women want — it is something all graduates rank highly when deciding a specialty. It will bring change in the form of a more flexible training program, such as job-sharing positions, and the increase in diversity and specialisation will serve to increase the amount of time that future practitioners have for their patients and for themselves.

### How do we plan for the future?

To answer this question, I would like to reflect on two very different experiences I have had as a medical student. Upon starting a new term in a new hospital, within a few hours I had a badge, a lab coat, access to theatres and had met the surgeon I was attached to. During every single consult, he would give his students the opportunity to examine each and every patient and to brief on the essential learning points that each patient provided. This surgeon regarded teaching as being as essential as treating his patients. He didn't necessarily have more time, but possibly more resources and more enthusiasm. Then, starting another new term at a new hospital, I arrived at my destination and sat and waited for an hour for the doctor I was supposed to contact. When he finally did show, he sheepishly admitted nothing had been arranged and he would call the doctor then and there. By the time he had organised anything, a few days had gone by and, needless to say, my enthusiasm had dwindled. These two experiences are in fact what happened on my elective, the first being in Canada and the second in Australia. If we are to plan education properly, we need to ensure that doctors understand that teaching is just as important as the patients they treat and, more importantly, they need to be provided with the resources, and of course the practice in teaching, so that they can do it. Personally, I found programs such as 'Teaching on the Run' a brilliant way of bringing forth a generation of doctors who really understand the Latin definition of doctor, that is, a teacher. Finally, it is important to identify the current need to accommodate for the explosion in medical student numbers. Only with the cooperation of the government and stakeholder organisations can we overcome this problem that will face us in the near future.

### Conclusion

My vision for the doctor of the future is someone who is knowledgeable, adaptive and can communicate effectively. These qualities will ensure they engage their patients, value themselves and their limitations, and in turn serve as inspirational teachers of the next generation of doctors.

## Dr Joanna Flynn, Australian Medical Council

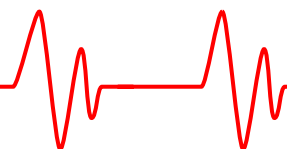
I am a GP and work half-time in suburban general practice in Melbourne. I am also President of the Medical Practitioners Board in Victoria, which means I deal with complaints about doctors. One of the issues is that most doctors of the future, for the considerable future, are those who have already graduated. So, to some degree, looking to medical schools for the answers, or as places where we need to implement whatever it is we agree we need to implement, is only part of the issue.

There are some worrying things that I have observed which are taking up an increasing amount of some of our colleagues' time. Last week I met a specialist who practises in lifestyle, menopause and weight loss. They missed a diagnosis of coeliac disease as the reason for a premenopausal woman's osteoporosis over a period of 10 years, while consistently doing DEXA scans on a 3, 6 or 12-month basis. They were operating from premises where the DEXA scanner was owned by the owner of the practice. This doctor did not communicate at all with the GP or other specialists who were treating this patient, and did not believe it was part of their role to do so, because they weren't a GP, but a practitioner of lifestyle medicine. There are doctors who go around to beauty salons and have Medicare-funded consultations where they advise patients that they need botox, which they then provide. There are doctors who provide telephone consultations for treatment of impotence with bio-identical hormones, whatever they are, without doing any physical examination of the patient or exploring the reasons that might be underlying the impotence. So there is a whole area of practices that people are opting to go into which are highly remunerated, uncontrolled and not connected to mainstream medicine or mainstream practice as we understand it. I think that is a challenge, particularly in general practice, because I think lots of what those people are doing is much, much easier than what I and my colleagues try to do in proper comprehensive general practice.

When we think about the substitution or sharing of roles that might evolve between doctors and other health professionals, I find it very hard to know what it is that I might be liberated from doing if I had a nurse practitioner or somebody else in my practice, because I like talking to patients and I don't want to lose that. I don't know what the technical thing is that I would be doing and I think that what I do with my patients works because we have built up a relationship over time.

General practice can be a somewhat demoralised profession because it is fairly easy to be not switched on, to not pay attention to subtle things that patients are trying to say to you and just let them go by. To be a good doctor requires an open, enquiring mind and a level of curiosity about what is going on with the patient, and being observant and picking things up. However, that requires energy, and that then links to what is happening to the health system and what is remunerated and how people choose what they are going to do. So I think that it is a very complex range of issues.

I don't think we want clones, we don't want a narrow, too-confined description of what a good doctor is. However, I would hope that the majority of the profession in the future will still work with people as clinicians and teachers, that they will be highly technically competent, that they will be respected and responsible and that they will recognise the traditional obligations that we have about self-regulation starting with the self. We will have professional standards and be required to meet them and we will hold each other accountable for them.



There is a major issue in the way in which younger doctors are choosing not to be involved in colleges or any other organisations. I understand and support the trend about life–work balance, but I think that a professional attitude is missing from a lot of the ways that people think about that, and I think that there is an enormous tension for people trying to balance a number of things. First of all, there is the need that we all have to feel we know what is going on, and the need to not miss anything. The uncertainties and ambiguities of practice are not going to go away, no matter how ‘high tech’ things are, and I see a lot of young doctors who are very anxious, and who find medicine scary, because they cannot work their way through that tension of not always knowing what is going on. I think there are tensions in relation to the evolution of our relationships with patients — we are trying to work in a more equal, patient-centred partnership model, and yet we still have all of the authority and responsibility of professionals. That is a difficult dilemma and, as I said, there is also the work–life balance, the choices people need to make to sustain their energy levels and enjoy what they are doing; but how is the work going to be done? Clearly, people are choosing not to work in an unlimited way, and that is very healthy; but if you look at the workforce data, it is more and more worrying.

I don’t know what the answers are for the doctors of the future. However, I think, as a whole, the profession is facing a real gap in terms of supporting and encouraging people to feel good about what they are doing so they stay engaged and keep doing it energetically and enthusiastically.

## Professor Katherine McGrath, NSW Health

As the doctor of the future (if I can pretend I am one now), I will have been through an education process that recognises the qualities that I need to have as a doctor. Not only the quality of practice I need to do but recognising, equally, that the quality for the patient relates to access to services as well as to my individual skills. And therefore, the training program has exposed me to a lot of different work environments where I get to see a range of patients in inner city, metro, outer metro, rural and regional settings; in hospitals, in the community, and in general practice rooms. I have been exposed to the range of patients I am likely to see, and that will be increasingly recognised. Indeed, today it is not actually chronic disease in the way that we used to think about, it is the aged and frail and elderly and their needs. They are not sicker, they have just got a different set of needs and their numbers are overwhelming, rapidly becoming the major patient group in need. I have had a lot of training in how to deal with the elderly patient.

Compared with the past, my training has been shorter. Then, the average age of a person in vocational training, in specialty training, was 35; most of them were not getting out until they were 40 and most of them, by the time they were 55, did not want to work full-time. Many of them didn't want to work full-time even in that 15 years, and when you think that they went into university at 18, how could we afford to have them not graduating till they were 40 to become doctors? As Australia's brightest and best, why did it take so long to train them to provide the sort of care required?

I have been to a training program that gives me the option, at the end of six or eight years, to enter the workforce as a generalist. If I want to go on to general practice, I will go to some specialty training on top of that; if I want to be a surgeon, I will go and do even more training. But today, I can choose to go and work in a salaried position in a hospital or community. I can choose to work three days a week because I am female and I want to have a family, or because I have four children and I want to spend some time with them. Three days a week of full sessions in a hospital practice where I do general work and refer the more complex work to the superspecialist is very satisfying to me. I can do part of that time in training and education, and perhaps I can even provide some training because I have time to think and plan. That stress that you used to hear doctors complain of so much because of all the demands on them is much less, because I am not working full-time and I am working as part of a team.

I recognise that to do my job well, I will talk to the patient about the components of their care that I am really good at, but I will refer them to the nurses around me, and the allied health staff who are working with me, for the components of care that they can manage far better than I can. And we will get together in short, sharp bursts to compare notes and see where this patient is going. So I am no longer isolated; it is not all down to me. I am part of a team and I am supported.

I have the knowledge of access to the internet and all those sources of information. I have access to best practice frameworks, because I know that I need to be accountable, not only for the quality of work that I do, but also for the quality and outcomes that we produce as a team. So I am regularly auditing (because I will not be registered unless I do) the outcomes of the patients who are in my care. I am much better at sitting down with patients, and when those elderly patients say to me that perhaps they do not want any more treatment, I am much more comfortable at having that debate. I am not going to be opting out as I have seen the older doctors do, and say that it is not my business; I will offer care because that is my job.

I am a doctor. In general, I will be much more holistic in my approach and I will sit down with people of 70 or 75, and their families, and discuss things that need considering before they become future problems. And I will get agreement from such patients about where they want to go as they become frailer and more ill. And when I sit down with my employer and the people who manage the health service or practice in which I work, I also meet patients who are representing the community that I work in, I am sitting down with college representatives to ask how the system is working for us all, how it is working for our patients, how it is working for our staff and how can we make it better.



## Dr Angela Towle, University of British Columbia

I bring the perspective of an outsider, because not only do I come from the United Kingdom and Canada, but my starting point in medical education was in an organisation that examined health service development and medical education from that outside perspective of delivery of health care services. However, I am also an insider because my day job is delivering an educational program.

What are some of the challenges that the doctor of the future will need to manage? Firstly, there are issues facing individual practitioners, and we are familiar with them as medical educators. They include the management of medical information, the use of technology, the management of patient expectations to be involved in their care, and the ability to work as a member of a team.

However, there are bigger issues in society in relation to the delivery of health care. The demand for health care is increasing, and it is going to increase even more in 10 to 15 years time. Populations are growing, people are living longer, and public expectations are rising. How can we meet these demands and still contain the costs of health care? Doctors are the most expensive part of the health care system and their training is long and expensive. If we merely seek to improve the performance of individual physicians, we will continue on the treadmill of training more and more physicians, opening new medical schools, and improving medical education, but will we really address the problem? I think that the approach to the doctor of the future depends on whether you think that the problems of future health care delivery and cost can be solved by incremental change, or whether you think that a revolution is required. Or to put it a different way, doctors will not be very different but they will be better, or that doctors will be a different kind of practitioner with a redefined scope of practice in relation to other health care professionals.

The incremental approach to the future is where we assume that the physician of 10 to 15 years time will look rather similar to the physician of today, and that the fundamental practice of medicine will be the same. Through this approach, we believe that issues such as physician supply and distribution, medical error and escalating costs can be managed by things like changes to admission policies, curriculum change, accreditation standards, licensure examinations and recertification. From my perspective as a medical educator, this is an attractive and achievable approach. Education is a conservative process. Even small changes can take a long time to plan and implement, especially when you have students in the system who are paying for the privilege of their education. In my medical school, it takes approximately two years to make even a minimal scheduling change, because there are so many people involved in an integrated program who need to have their say, as well as departments with vested interests. So, to be blunt, the notion that it is possible to effect major change in the 10 to 15 years timeframe that we are considering is unrealistic. If we were to start planning tomorrow, it would still be 10 to 15 years before the practitioner actually got into practice. Major change would take considerably longer and just the process of gaining acceptance from the many stakeholders involved in medical education would take 10 to 15 years. Consequently, the most that we can expect from the incremental approach is that there will be improved and demonstrated competence in areas such as communication and information management, evidence-based practice and interprofessional teamwork; that this improvement would not just be for the new doctors but would also be for those already in practice.

Being pragmatic, and based on everything that we know about change in medical education, I conclude that the physician of 10 to 15 years time will not be substantially different from the physician of today. And you are going to have to decide whether that is sufficient or not. For if it is not, a revolutionary approach is going to be required and it will have to be driven externally by policy makers and payers. It will have to address the thorny issue of the roles and responsibilities of health professionals. And it will need to begin by defining the models of health care delivery that are required to meet the health care needs of the population and then to redefine the types of health professionals and scope of practice required. In Canada, the major report on the future of health care, the Romanow Report, called for such a view, but, so far, none of the professional bodies have shown interest in engaging in this process — and this is hardly surprising, as it strikes at the very heart of their existence.

Last week, at the request of the dean, I met with the chairman of our alumni association who wanted to talk about our curriculum. He began by asking me what we were doing to differentiate the training of physicians from nurse practitioners, because he wanted us to emphasise what makes physicians different from nurse practitioners. In Canada, we are also seeing the battle lines drawn between physicians and nurse practitioners, physicians and midwives, and physicians and pharmacists. So, perhaps while we move forward on the incremental approach, we should also attempt to ask those difficult questions that we are all ignoring or trying to ignore: what is it that physicians with their long and costly training should be doing, what are the consequences for the numbers and types of people who we admit into medicine and what are the consequences for their education?

Finally, whatever we might think about the future doctor, we definitely cannot predict what the doctor of the future beyond 10 to 15 years is going to be doing. Consequently, we must ensure that we have a flexible system so that we can adapt and be responsive to change at an individual and systems level. So I challenge you to look at the way in which the organisation of medical education throughout the continuum fosters or hinders diversity, flexibility and responsiveness, and how to ensure that we have mechanisms for ongoing dialogue between the stakeholders so that we do not look back to today in 10 years time and wonder what we did in the interim.

## Associate Professor Helen Milroy, Australian Indigenous Doctors' Association

By way of declaring my interests in this area, my family are Palyku, from the Marble Bar region in Western Australia. In view of my heritage, I will just say that we need to pay respect to the ancestors of this land and the traditional owners who would have been here and, despite the fact that we have this lovely hotel, remind ourselves that there are thousands of years of Aboriginal history underneath where this building sits.

Listening to the speakers gives me an opportunity to tie together some of the threads of what people have been discussing. If you want to know where the diseases are, where there is clinical material, where there is clinical disease, where you can manage complex systems, where you can be a team member and be adaptive, where you can upskill in communication, be patient centred, be community minded, have experiential learning in a range of settings, experience diversity and be flexible, welcome to Aboriginal health. The only thing that we cannot offer is the experience of working with an elderly population, because we do not live long enough yet.

However, is there a limit to what is possible for our doctors and our medical staff? I think that the analogy of telling medical students to watch Star Trek is probably a good one, because we do not know what the limits of medical practice will be in the future. Will we be moving from illness to wellness to what is considered ideal? This is already mentioned in lifestyle medicine today. How will what is moral match with what is ethical, versus what is possible and what is economically rewarding? Who will safeguard humanity? Who will advocate equity? Who will say, no, this is no longer good medicine? And how will this judgment be made, considering there are something like 32 variations of the meaning of 'good' alone?

What is the essence of a doctor? The archaic meaning of 'doctor' refers to someone who is a teacher or very knowledgeable. It is interesting to look at what an Aboriginal doctor was traditionally (and mind you, we were very healthy 200 years ago and had a very good system of health care). Traditional healers were clever people who knew about sickness and about people. They looked at someone from the inside and could see their sickness. They learned from their spirits, and they learned about life for many years. Healers were also well respected. They had an obligation to share their gift or experience. When you became a doctor, you were forever seen in this role; it was inescapable and, at times, overwhelming.

I think that all of us have probably faced that in our own careers. The expectations and demands for perfect health and perfect treatment do not recognise that doctors are also people and are subject to making mistakes. We have to balance our technical skills with our own humanity. We have to be real people seeing real patients, and I do not think that fundamental relationship will ever change. We have to be able to understand the human condition, we have to retain compassion, and we have to be able to see past the immediate to consider the long-term implications, and yet deal with the demands of the present. We also have to balance a multiplicity of roles; we cannot be everything to everyone all the time and yet these are some of the demands that are placed upon us. We will always need to have specialties, but I am concerned that because we have these highly prized specialties, we lose our ability to have patient contact. I am a child psychiatrist in Australia, and, as we all know, there is a shortage of child psychiatrists everywhere, and there is a move to make us superspecialists who sit, consult and give advice, and never actually manage patients. I think that would destroy my job satisfaction, which stems from a clinical interface. So, we also have to be careful that we are not outpriced in the health market.

# Where should medical education be in 2010?

## Mr Brett Lennon, Australian Government Department of Health and Ageing

I would like to address the question of where medical education should be in 2010 from the perspective of an economist. Australian state and territory governments make a substantial investment towards our medical education and training system. For example, the Australian Government pays approximately \$16,000 per year per medical student. This is almost \$100,000 per student for a six-year course. Governments also contribute considerable sums through capital contributions to establish medical schools and to operate our postgraduate and vocational training systems.

What do governments expect in return for their investment? They expect doctors who, on completing their training, have the skills to practise at a high level in their particular branch of medicine. They expect a medical education system that can produce these doctors in the optimum time necessary to reach these skill levels, and that can produce enough doctors who are willing and able to work in medical disciplines with high patient demand and in geographical areas with high patient need. Finally, they expect doctors who are able to maintain a high level of expertise in a particular branch of medicine throughout their working lives. There are a number of challenges that the medical education system will need to address if it is to meet these government expectations by the end of the decade.

### Quality of training

The first challenge relates to the quality of training of doctors. With some exceptions, such as general practitioners, vocational training for medical specialists is not providing trainees with adequate access to the continuum of patient care in which they will be required to practise. Vocational training continues to focus on major teaching hospitals but, increasingly, service delivery is occurring in the private sector, including private hospitals, private specialist rooms and other community-based settings. For example, in 2001–02, 44% of all same-day separations took place in the private sector. As a result of this shift, current training arrangements will not allow all specialist trainees to learn the skills that are required to practise at a high standard across all aspects of their specialty. For example, orthopaedic surgery trainees lack exposure to common conditions such as foot problems or shoulder instability, because they are not often treated in the public sector. Similarly, the most prevalent psychiatric conditions of anxiety and depression are largely treated in private practice. A taskforce under the chairmanship of the Australian Government's Chief Medical Officer, Professor Horvath, and with wide medical sector representation, is currently developing proposals that seek to address this important disconnection between medical training and service delivery.

### Team-based and interdisciplinary education

The second challenge, which also relates to the quality of training, is team-based and interdisciplinary education. The major cause of death in Australia has shifted from infectious disease to chronic disease. Chronic diseases now make up more than 80% of Australia's disease burden and, in 2001, approximately 50% of Australian adults suffered from one or more chronic conditions. Chronic disease management often requires close cooperation among the interdisciplinary health team, which includes doctors, nurses, pharmacists and the various allied health professionals. More generally, most of the illnesses burdening today's society are too complex to be addressed by a single health discipline. This emphasis on interdisciplinary care needs to be reflected in the education and training of our future doctors if they are to achieve the necessary skills for the service delivery world in which they will need to operate.

### Length of medical training

In Australia, it takes a minimum of 10 years to produce a fully qualified general practitioner, and approximately 15 years to produce a fully trained medical specialist. Should we consider reducing our education and training times? Could we, for example, allow some medical students the option of specialising in their undergraduate years? This training could then be credited against the vocational training undertaken at a later stage through the relevant specialist medical college, hence reducing the period of training required to achieve fellowship standard. Related to the length of medical training is the issue of recognising prior learning among the specialist medical colleges for students who wish to move between training programs. The development of stronger links between college training programs will allow for greater portability of training and reduce instances where trainees have to start at the beginning after moving between disciplines, hence improving the overall efficiency of the system.

### Equity of access to medical services

Equity of access to medical services is a key tenet of the Australian health system. There are several design features which have been incorporated into the medical education system to promote this objective. For example, 20% of the annual medical school intake is now bonded to work in rural and other areas with a workforce shortage for six years after their training, and a network of Rural Clinical Schools has been established across Australia to promote rural medical practice. However, problems of equitable access to medical services remain, both geographically (for example, shortages of medical practitioners in rural and outer metropolitan areas), and in particular medical specialties (such as the shortage of geriatricians in our ageing society). There is a need for the medical education system to consider what else it can do to improve the equity of access to medical services.

### Lifelong learning

Finally, is our medical education and training system adequately emphasising lifelong learning and adaptability? Medical technology and treatment regimes are constantly being improved, meaning that medical education must be a continuum that is upgraded throughout a doctor's working life. This highlights the importance of medical colleges in maintaining strong continuing professional development programs by their members. There is work in progress on enhancing this area of medical education. For example, a learning, education and professionalism framework devised by the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, on behalf of the Committee of Presidents of Medical Colleges, is currently being piloted by a number of specialist colleges. However, some specialist medical colleges still do not mandate continuing professional development programs as a condition of retaining fellowship.

### Summary

The challenges that I have outlined for the medical education system to meet the expectations of governments by 2010 are considerable. In concluding, I would like to emphasise that significant progress towards meeting these expectations will only be made if there is a general collaborative effort from all stakeholders in the medical education field. This includes the university medical schools, the postgraduate medical education councils, the specialist medical colleges, the AMC, the Medical Registration Boards, and the Commonwealth, state and territory governments.

## Dr Andrew Child, Committee of Presidents of Medical Colleges

### Introduction

Medical colleges were first formed in 1518 with a charter from King Henry VIII to Dr Thomas Linacre. At that time, there were only a dozen physicians in London and the aim of this college was to prevent the activities of charlatans and apothecaries. In the *British Medical Journal* in 1968, 450 years after the colleges were founded, an interesting article commented on the tension that existed with the college ideals of dignity, grandeur, exclusion and seniority, which have hopefully been replaced by modern college ideals of progress, science, inclusion and vigour.

What is the state of medical education in colleges 500 years after they were founded? Today, colleges have several core functions. The first is training and assessment; although much of the training is done by hospital-based college representatives rather than the colleges themselves, the overseeing of the whole program and the responsibility for a curriculum is college based. Examinations for members, fellows and subspecialists are the second major role of colleges, and we plan to discuss this further at a workshop in Melbourne in two weeks. Continuing education is the third major role, and nowadays this also includes education in risk management and encouragement in practice audit. Developing college statements is an important but difficult task. For example, in the College of Obstetrics and Gynaecology, we are writing a statement on abortion, which is difficult because it must cover an issue across the whole of Australia and New Zealand. Colleges also support research through foundations and other avenues, and provide publications, such as newsletters and journals. Non-core college functions include advocacy for the discipline as a whole, for the doctors within each subdiscipline, and for the patient groups that are being treated. Members and fellows are also supported and assisted in day-to-day issues and problems; however, sometimes this is not possible. Colleges are experiencing an increasing flood of requests and demands from external agencies for representation on committees, and information and advice on a wide range of topics. Colleges are also represented on various national and international committees and their role outside Australia and New Zealand is substantial, further stretching their time and resources.

### Strengths of existing programs

The accreditation of colleges by the AMC has been a valuable step towards validating the colleges' programs. The accreditation process closely examines how the colleges are run, which is extremely useful to identify what colleges can and should do in a framework comparing colleges with each other.

Training is a relatively low-cost endeavour for colleges, as well as for the trainees who, at the same time, are paid by health departments for their hospital service — a type of educational backing. Training is not a significant income stream for colleges because we charge trainees less than \$1000 a year to be in the college program. Reducing the income of trainees is risky, because they are at a stage in their life that involves heavy costs. They are often in their early thirties with new families and mortgages. Colleges also have to consider the true cost of training, which is estimated to be approximately \$140,000 to train a surgeon over six years.

The continuum of lifelong learning should reflect the fact that the college training and accreditation programs are part of a continuum of specialty training and continuing education.

### Weaknesses of existing programs

There is an expectation that considerable training time will be spent in a public hospital setting. I think that we must avoid reducing this training time for registrars at the college level. Medical trainees provide an extremely important contribution to the hospital management of day-to-day patient care, and reducing their training from six years to four would necessitate a significant increase in the number of trainees to cover the normal day-to-day workload in hospitals. A weakness of the college system is this complex relationship between work and education/training. On-the-job training is valuable for the trainee; however, hospital administrators with major budgetary constraints are finding it increasingly difficult to allow trainees to take time off for training purposes.

We need to improve the medical education system's assessment of performance, both for people graduating from the program and also for ongoing assessment of people in the workforce and for doctors entering the workforce from overseas.

Currently, pro bono work is an enormous contribution by senior fellows in all colleges; but is it sustainable? In general, people who contribute substantial time to college functions, such as examinations, education and training supervision, do so by their own choice, but I am not confident this will continue for much longer.

For most colleges, around 70% of income is provided by subscriptions from fellows. This funding must be used wisely, and colleges cannot expect to pay every training supervisor for the many hours that they spend supervising, or every examiner for the days that they spend examining. Also, in many colleges, none of the fellows, even college presidents or council members, are paid.

### Future challenges

Part-time training is becoming a major issue. It is my impression that someone working half-time does not get the same rounded training as someone working full-time. Colleges must also consider the maximum period of training that is necessary for specialties. The College of Psychiatrists recently determined that the minimum total period required for psychiatric training is 15 years — which seems a relatively long period of time. However, it includes up to 12 years of half-time, with two years off and one year to sit the examinations.

During this conference, training outside teaching hospitals has often been mentioned. For elective surgery today, most people come in on the day of their operations and registrars are not given a chance to see the patient before they are on the operating table. Postoperatively, the registrar may not get to see the patient again as there is no outpatient clinic, and the idea of a continuum of care for the patient is disappearing. This is something that should, and hopefully will, change.

I am cynical about some of the educational changes that have been introduced. Often, they seem to be based more on whims rather than genuine evidence and they do not always contain an inbuilt evaluation procedure to assess the quality of a changing education system. This is a problem that we must examine carefully.

### Summary

The final challenges are the implications of clinical governance. Certainly, governing bodies now feel the need to assume control of education management as a whole. This has already occurred in Britain and it is clear that similar action in Australia must be taken in a planned, constructive way to provide everyone with the appropriate information to oversee such a responsibility.

But what will things look like in 2010? There is certainly a significant chance that college education in its present format will be completely different. It is my view that, in order to survive, colleges will need to become valid, comprehensive and genuine educational institutions. Alternatively, there is a chance that many activities presently controlled by colleges will be managed by external bodies, although the strengths and weaknesses of the present programs would make this a very challenging exercise. In conclusion, I do not have the answers, but I have raised many questions.



## Dr Jeanette Young, Australian Medical Workforce Advisory Committee

### Introduction

Presently, the working age population currently grows by 170,000 people a year. Using data from the Australian Bureau of Statistics, demographic trends already in place will see the working age population grow by just 125,000 for the entire decade of the 2020s (ie about 12,500 per year), the majority of whom will be older workers. This has major implications for health, because the medical education system in Australia traditionally takes enrolments from younger students. Consequently, we need to change the education process across the health field. Perhaps the only reason that Australia's economy is surviving, despite John Howard's view of bringing in 20,000 additional skilled workers, is that women are increasing their participation in the workforce. This also is important in health, and particularly for the medical workforce. Health comprises 10% of the workforce, and this figure increased to 11.4% between 1996 and 2001.

### Medical workforce numbers

However, with this increasing number of doctors, why is Australia facing a crisis in medical workforce? The problem is partly caused by reduced growth per head of population, particularly in general practice and specialties. The number of GPs per 100,000 population has remained stable. In addition, the proportion of women in the general population has increased, and they are growing older. Like the rest of the workforce, doctors are also ageing, which is a crucial problem. On average, doctors are working fewer hours, and if 50,000 doctors all work one hour less each week, many more doctors will be needed to maintain the same amount of available medical workforce. In 1996, Australia had 278 doctors per 100,000 population. In 2002, we had 271. Within these numbers, however, AMWAC allowed for the decrease in female hours and the increased number of female doctors, but did not allow for the decrease in male hours. The average duration of a male doctor's working week dropped from 51 to 47 hours — a bigger drop than that of female doctors. It is this decrease in male work hours that has made the most significant difference, because male doctors still comprise 70% of the medical workforce. Is this decline going to continue? I think that hours will continue to decrease. When AMWAC surveyed medical trainees in 2002, those working more hours said that they wanted to work less. We repeated the survey in 2004 and are currently compiling the data; however, we have already seen that 23% would like to work part-time (less than 35 hours) in five to ten years time. This trend is more pronounced in some states than others.

### Increasing the medical workforce

There are two ways we can strengthen the medical workforce: increase the number of enrolments and increase the number of overseas-trained doctors. To increase numbers, we can train more doctors (which we are currently doing), or we can decrease their training time. Medical student places have changed from a low of 860 in the mid-1990s to 1860 in 2008. These numbers are as accurate as possible, given issues such as full fee-paying domestic students. At the moment in the United Kingdom, 70% of entrants are female. It is likely that a similar number will be seen in Australian enrolments, meaning that eventually there will be fewer hours worked across the medical workforce. So how many medical graduates will we need to maintain the workforce? There are 1782 first year vocational training places in the system at the moment, which exceeds the number of enrolments. Every AMWAC review, except one on paediatrics, has recommended increases in the numbers of training places, which have occurred at the expense of general practice and pathology. Another problem is the age of graduates, which is older than previously because of the shift towards graduate medical schools (accounting for 50% of all graduates).

The second way to strengthen the medical workforce is to import more overseas doctors — a strategy that is already in place. On average, the AMC allows an annual intake of 200–300 overseas-trained doctors; last year, due to changes in the examination process, 519 were admitted. This is a big growth area: temporary resident doctors have gone from a minimal number to 4000 in 2004. What about the so-called ‘brain-drain’ of Australian doctors to other countries? The most recent data from the Department of Immigration show that, in 2002, 386 doctors entered Australia and 287 left. Unfortunately, these data are self-reported and may not necessarily represent Australian doctors. However, the numbers are not big, and we need to keep an eye on that, particularly if there is a perception that we are losing our workforce. To put it into perspective, in 2002, 67,500 doctors were registered in Australia.

### Summary

So, we can increase participation rates, we can increase hours (which I suggest is not going to happen), or we can encourage re-entry into the workforce, and discourage exit. We can influence consumer behaviour, so that we need fewer doctors. We can encourage increased productivity and we can examine what doctors do and whether they are the most appropriate people to do these tasks or whether they can be shared among the medical team. In summary, the challenges for medical education, from a medical workforce planning point of view, are to increase training numbers, and to recognise that doctors will work fewer hours and that we cannot afford to increase training to compensate. We also have to move away from time-based training and decrease the length of training time. In light of these requirements, we need to change the medical education, and start to involve training of other health professionals.

## Dr Stefan Kane, Postgraduate Medical Council of Victoria Accreditation Sub-Committee

### Introduction

The next five years are largely going to be a product of the significant changes that have occurred over the past decade. I think that we are generally on the right track. There are many positive developments occurring and being planned; however, many areas need further development, including those of integration, flexibility, and the continued formation of an evidence base in the undergraduate, prevocational and vocational arenas.

### Undergraduate

There has been a revolutionary change in undergraduate training during the past 10–15 years, such as new curricula, new selection processes, new bonded places, new medical schools, private medical schools, fee-paying places and increased numbers of students. These changes have, in large part, been monitored by the rigorous and thorough AMC accreditation processes, which evaluate their impact on the process of medical education. To varying degrees, individual schools evaluate the outcomes of medical curricula; however, there is some doubt about the correlation between these outcomes and those desired by employers and medical colleges. We need to work towards developing an integrated feedback loop to facilitate continuous renewal and maintain relevance, which is one of the accreditation standards of the AMC.

There has been quite a bit of criticism of the new curricula that have been introduced, although I sometimes wonder about the evidence substantiating this criticism. I also wonder at the willingness of these critics to generate evidence (other than anecdotal) to support their criticism. The potential role of a national licensure exam has been raised again in the *Medical Journal of Australia* recently, in an article by the Oncology Curriculum Working Group. Is there sufficient evidence for improved processes or outcomes that such an exam would produce? It runs the risk of minimising diversity but, by the same token, would provide a uniform barrier for local and foreign graduates. Change is inevitable and will continue, but given the magnitude of change that we have had over the past few years, perhaps it is time for something of a bedding-down period in which we can gather data and generate the evidence we need to support what has been happening. This includes both curriculum change and imposed policy innovations such as rural clinical schools, and must incorporate optimal resource allocation. We are a country of only 20 million. We have limited resources, both financially and in terms of academics and other staff; these have been stretched by the rapid increase in the number of medical schools and sites at which teaching is occurring. I think we need to face a fearless disposal of that which is not supported by evidence.

### Vocational

There have been major changes in the vocational arena. Curricula overhaul here should be responsive to changes in the undergraduate arena in both content and learning styles, and this could be facilitated by AMC accreditation. And there is the need for intercollege collaboration, as mentioned earlier, which is being facilitated by groups such as the Committee of Presidents of Medical Colleges (CPMC). We need to work towards greater mutual recognition and modularity; these are the keys that are going to be essential in any successful shortening of training time.

The future role of colleges is also being questioned. In many quarters, there is a perceived need for greater transparency and accountability, and we have heard of some of the moves towards challenging the colleges' monopoly on vocational training. It will take a 'pre-emptive strike' to ensure that these challenges are met head on. We have also already heard about the recognition and resolution of tension between training and service delivery; perhaps a clearer delineation of training costs and infrastructure requirements is necessary.

### Prevocational

And finally, my own stage: prevocational training. I enjoyed my internship last year very much. I didn't feel like a ward clerk at all, although there was a fair amount of paperwork involved. I did think it furthered my learning and professionalisation; I found it enormously rewarding and enjoyable, and I am continuing to find my residency this year the same. I think the prevocational period is no longer seen as a holding pattern of service delivery, but rather an integral part of our education. It gives us a valuable opportunity to evaluate the real-world outcomes of undergraduate education and form part of that feedback loop I mentioned before. How this is going to happen is open to debate; for example, more assessment, observation, self-assessment etc. We need to consider increasing exposure to community-based and other non-tertiary hospital locations that have unique educational opportunities, such as general practice placement programs. This will be necessary given the rapid increase in graduates that will occur over the next five years or so. So changes here must be responsive to changes at the undergraduate and vocational level. I might make the point that any move to stream graduates or even undergraduates earlier must also accommodate graduates like me who have no firm long-term plans yet, and who value exposure as a doctor, not as a student, to many different areas of practice; in so doing, I feel we still provide valuable service. As for the role of the specific prevocational curriculum, is it merely plugging gaps or would it be focused preparation for vocational training? I think that whatever form it takes, it should also focus on the acquisition of professional attributes — how to teach, management skills, and so forth. International medical graduates and career medical officers are particularly important areas that probably have not received sufficient attention to date, although much work is being undertaken currently.

### The private sector, research, and regional responsibilities

There are three further areas of development that cross all domains that I would like to mention. One is the private sector, which is an increasingly common setting for medical education at all stages, and provides unique opportunities and challenges. The current experience of students and prevocational, and indeed vocational, trainees ranges from the very good to the far less than optimal; this is, of course, no different to the public system. There is perhaps an obligation for private institutions to fund training and educational infrastructure — already, there are some fine examples of this (particularly in Western Australia) — but would doing this on a large scale put further pressure on premiums?

Secondly, I think that research is a vital component of education, and development of research skills should be a priority. Research should be viewed as complementary to clinical training, regardless of the stage; it should not just be for career researchers. The opportunity to undertake research should be available at all stages of training, but currently there are only limited opportunities, particularly in the prevocational and early vocational settings. Clearly, in the undergraduate and the later vocational settings there are greater opportunities. Finally, we have an obligation to continue the considerable efforts made in increasing the quality of medical education in our region, and indeed more broadly than that. This will of course require funding. More broadly, we must develop strategies to deal with the internationalisation of the workforce through flexible training programs, and perhaps greater alignment with overseas programs.

## Conclusion

Medical education is a continuum extending beyond formal vocational training to the day we cease practice or die — whichever comes first! So, it should be planned and delivered as such, with greater integration between stages, overseen perhaps by a unified governance entity. Workforce strategies should complement this continuum and be evidence based, consultative and focused on both the short and long term.

## Professor David Prideaux, Flinders University of South Australia

What do I want by 2010 in medical education? Well, primarily I want medical education to matter. So where should it be? I want it to be widely acknowledged that medical education matters in two areas that are important to me as an academic medical educator: that is, in teaching and research. In teaching, we should be ensuring that medical education delivers competent graduates working in areas where they are needed in Australia, New Zealand, the Pacific and in the international community. In research, medical education should be seen to be underpinned by rigorous intellectual processes. I will say at the outset that I think we have made a lot more progress in the first than in the second.

In 2001, John Bligh, Glennis Parsell and I set out what we thought were the priorities for medical education in the 21st century using the acronym PRISMS, that is:

- **P**roducts focused;
- **R**elevant;
- **I**nterprofessional;
- **S**horter, smaller;
- **M**ulti-site;
- **S**ymbiotic.

If we look around the Australian, New Zealand and Pacific programs, we are outcomes-focused and we are focused on relevant outcomes. We are looking at shorter programs. We are looking at the creation of smaller medical schools or the breaking down of the larger medical schools into multi-site operations.

What about this notion of the symbiotic curriculum (a relationship between the medical schools and the health services where there is a mutual benefit to both)? We have progressed that, but have we progressed it far enough? I like to think of it this way. At the end of a clinical rotation, instead of the clinical services saying 'thank God the students have gone, we can get back to normality' they might actually say 'I wish they weren't leaving because we can't do without them'. And some people say I am mad to even think that, but I do.

We have had symbiotic relationships with our health services at a structural level, although over the last couple of days of this conference we have seen how difficult they are to maintain in the current environment. I now think we need to build symbiosis into the curriculum itself. We need to have a revolution in the clinical years of medical courses, like problem-based learning (PBL) was a revolution for the early years, like objective structured clinical examinations (OSCEs) were for the assessment process. So we've got to find yet another acronym to transform clinical education! Universities have a responsibility not to just dump students in clinical contexts and run away. They must make sure that we use the expertise that we have got in our clinical settings wisely, that students have long placements, and very importantly, from my point of view, that students actually do their clinical education in areas of need. This means expanding our opportunities as we have in rural Australia and looking at areas in outer urban Australia to expand our clinical placements.

Medical education research is an important part of the agenda that we simply haven't discussed during the conference. We have people saying we need data, yet research is not on our agenda. Professor Judy Searle and I recently did a paper for *Medical Education*. We found that medical education research was:

- recent — That is not surprising because medical education units are recent and they have often been set up to service curriculum changes
- diverse — which potentially is a strength, although at the moment I think it is a weakness
- localised — is about one program in one university in one context in a particular year rather than 'generalisable'
- methodologically limited — we use randomised controls where they are not appropriate, we use qualitative designs without doing the rigorous analysis that underpins those designs
- atheoretical — it is not informed by theory
- nonprogrammatic.

If you look at what the funding agenda is for research in this country, those dot points are the very antithesis of what is being funded. So clearly we have a long way to go.

So what imperatives should we have for medical education research from now until 2010? It has got to be collaborative; it has got to address significant questions (and there are many significant questions that have arisen out of this conference). It has got to have methodological rigour. It has got to stand up and it has got to produce generalisable outcomes.

Having painted a sort of black picture, there are several promising things emerging on the horizon. The first occurred to me a couple of weekends ago when we had a workshop in Adelaide on assessment and there was a group of Australian and some international universities there. A lot of people from the international universities were saying, 'You Australians seem to get on and you can cooperate and you can collaborate. You are not competitive.' So I think that we have a basis on which to work.

Furthermore, I now think that we have some people in medical education research in Australia who have got the track records and have got the methodologies available to them, and if we start collaborating around those groups we can start to do some research. The second ray of hope on the horizon is CDAMS projects, like the Medical Schools' Outcomes Database and Indigenous Health Curriculum Framework, which are genuine collaborations between all the medical schools. Projects like that will provide us the essential research tools to do some of the critical and rigorous research that we need to do.

What do I hope for in 2010? I want medical education to really matter. I want it to be recognised that it produces good workforce outcomes and that it is underpinned by rigorous intellectual processes.





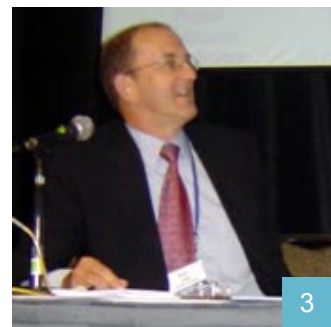
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1. Sunset from Parliament House forecourt, looking east to Old Parliament House and Mt Ainslie.

2. Discussion group convenors. From left to right: Prof. Fiona Lake (UWA); Prof. David Prideaux (Flinders); Prof. Allan Carmichael (Tasmania); Prof. Richmond Jeremy (Sydney); Prof. Judy Searle (Griffith); Prof. Mark Harris (UNSW).



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3. Prof. Brian Jolly (Monash)

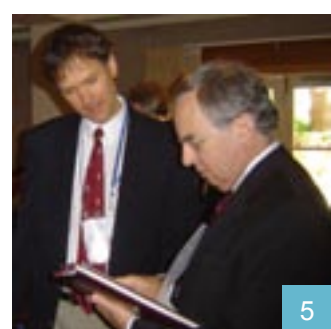
5. Professor Paul Worley (Flinders) and Professor Lindon Wing (Chair, CDAMS)



4

4. Panel session speakers, "What is the Doctor of the Future?"

From left to right: Prof. Peter Brooks (Executive Dean, Faculty of Health Sciences, UQ); Ms Dana Stanko (Vice-President, AMSA); Prof. Katherine McGrath (Deputy Director-General, NSW Health); Dr Joanna Flynn (President, AMC); Dr Angela Towle (University of British Columbia, Canada); Assoc Prof. Helen Milroy (President, AIDA)



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6. Discussion group convenors.

From left to right: Richmond Jeremy; Judy Searle; Mark Harris; Prof. Michael Hensley (Newcastle); Prof. Lindon Wing (Flinders); Prof. Peter Brooks (UQ); Prof. Richard Hays (JCU). Absent: Prof. Paul Gatenby (ANU)

7. Delegates relaxing with pre-dinner drinks.



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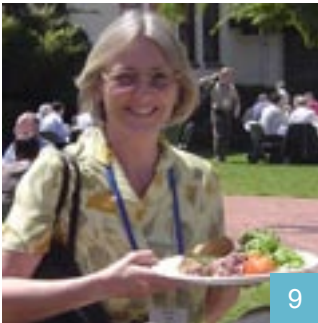


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8. Lennox gardens on the shores of Lake Burley Griffin.

10. Student representatives at the conference enjoying pre-dinner drinks.

From left to right: Xaviour Walker (Otago), Tim Duncan (Monash), Andrea Avolio (Sydney), Aimee Greenfield (Auckland), Liz Hodge (UQ), Stefan Kane (PMCV), Jesse Gale (NZSMA), Clare Frauenfelder (Adelaide), Caroline Mooney (Tasmania)



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9. Keynote speaker Dr Angela Towle (University of British Columbia, Canada).

11. Delegates enjoying the welcome cocktail reception, Lavender Courtyard, Hyatt Hotel, 7th March.

12. Guests at the conference dinner in the Mural Hall, Parliament House.

Standing from left to right: Prof. Lindon Wing; Mr Bob Wells (ANU); Ms Dana Stanko; Prof. Michael Field (AMC); Prof. David Prideaux. Sitting from left to right: Dr Joanna Flynn; Prof. John Horvath; Dr Jeanette Young (AMWAC); Dr Andrew Child (CPMC); Dr Angela Towle.

15. Delegates at the conference dinner.

13. Keynote speaker Prof. John Horvath (Chief Medical Officer, DHA)

14. Delegates enjoying the Hyatt Hotel's delightful afternoon tea.



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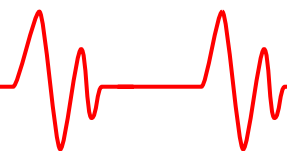
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## Goals and strategies





## Summaries of the discussion groups

On the following pages are the outcomes of the 12 discussion groups, which have been grouped into three areas (see Appendix 2 for full list of topics, convenors and questions):

- **Building links between medical education and the health system.**

1. Policy development processes.
2. Fitness to practise, safety and quality, and team-based health care.
3. Hospitals, medical schools and clinical education.
4. Medical workforce planning.
5. Medical education and clinical care.

- **Professionalism in education and practice.**

6. Professional standards and students' education.
7. Accreditation and registration processes.

- **Curriculum development, assessment and review.**

8. Clinical practice, educational delivery and curriculum development.
9. Basic sciences in the undergraduate curriculum.
10. Links between stages in medical education and training.
11. Recruitment and training of medical academics.
12. Medical education and Australian health priorities.

## 1. Policy development processes

### Vision

A policy framework is necessary that:

- is responsive to health workforce needs and health outcomes of the community
- places medical education in the context of a continuum of health provider education
- provides vertical and horizontal integration of medical education.

This framework could be achieved through a 'health education advisory council':

- a national body (eg the Safety and Quality Council could be a model) providing advice to AHMC and MCEETYA in setting up a policy framework.
- responsible for putting items on the national agenda.

AHMC = Australian Health Ministers' Conference

MCEETYA = Ministerial Council on Education, Employment, Training and Youth Affairs

### Current system

The group discussed the strengths and weaknesses of the current system in Australia, and discussed some overseas models. The main problem identified was the lack of an overarching policy framework in health education as a whole. This 'policy vacuum' leads to decisions being made on a reactive basis, rather than a proactive one. A further problem identified was the conflict between the states and territories and the Commonwealth.

### Framework

A framework linking medical education to health care provision is needed. It would need to link groups such as the Australian Government Department of Education, Science and Technology (DEST), the Australian Government Department of Health and Ageing (DHA), different jurisdictions and non-government organisations (NGOs).

### National body

The group wanted a common meeting place, and cohesive links between the different players, which could be provided by a national 'health education advisory council'. There was discussion over what the proposed council should cover (medical only, or also health), who should be involved (important to have a community voice), and what the role would be (advisory, evaluation and review, ensuring continuum of medical education, encouraging partnership, ensuring equity of services and social accountability).

The group believed medical education should be evidence based, involve all stakeholders and take into account the issues of specific groups.

## Implementation

To overcome issues such as lack of communication between stakeholders, a two-stage process for setting up a national body was suggested (ie evolutionary rather than revolutionary), with the aim of the first stage being to establish a process for policy development. Some of the issues discussed included:

- separation of medical education from health services
- an education unit to represent the medical colleges
- the need to define issues and solutions
- the need for long-term funding (in particular, resources for a taskforce that would recommend a policy framework and ensure that policies are implemented).

The group looked at who should 'own' the proposed council (AHMC) and what it should be called (the National Healthcare Education Council). Possible problems, and suggestions for priorities, funding, membership and terms of reference are summarised below.

### PROBLEMS

- fragmented responsibility for training
- matching services and education to national health priorities (demographic changes)
- workforce shortage and distribution (retention, overseas-trained doctors)
- disproportionate escalation of health care costs.

### PRIORITIES

- streamlining the continuum of education and training
- consumer knowledge and empowerment
- new technology and skills requirements (in teams).

### FUNDING

- government funded
- council needs to be independently incorporated and be able to employ own staff
- reporting line direct to AHMC.

### MEMBERSHIP

- independent chair (someone with knowledge of systems, not a bureaucrat and fully independent from stakeholders)
- universities
- other education providers (colleges, TAFEs, registered training organisations)
- consumers
- regulators (AMC, PGMC)
- government and health providers
- students and trainees
- professional associations/unions.

### TERMS OF REFERENCE

- policy framework — establish the framework for policy development for health care education within Australia
- information gathering — collect appropriate evidence to inform policy development
- policy development — address identified problems in health care education
- collaboration — promote collaboration between stakeholders in health care education
- funding models and strategies — develop models to enable policy to be implemented
- advisory — advise government about appropriate policy and funding for health care education
- communication — communicate developed policies and their implementation to the stakeholders.



## 2. Fitness to practice, safety and quality, and team-based health care

### Vision

TOPIC	UNIVERSITY/MEDICAL SCHOOL REQUIREMENTS	HEALTH SYSTEM REQUIREMENTS
<b>Good medical practice (needs definition and statement)</b>	<ul style="list-style-type: none"> <li>a definition of good medical practice (eg as in the United Kingdom)</li> <li>a national approach to intern core competencies, defining what students should know at the beginning and end of their intern year</li> </ul>	<ul style="list-style-type: none"> <li>strong national leadership that is well resourced, to rationalise roles and effort</li> </ul>
<b>Professional behaviours</b>	<ul style="list-style-type: none"> <li>a regulatory framework to rigorously assess professional behaviours (document all incidents as they occur, barrier to progression)</li> <li>a body or committee that can interview students</li> <li>a remediation process</li> <li>clear communication to students of aims and objectives</li> </ul>	<ul style="list-style-type: none"> <li>cultural shift to overcome fear of litigation</li> <li>education of whole health team (including educators) in professional behaviours</li> </ul>
<b>Safety and quality (framework available <sup>a</sup>)</b>	<ul style="list-style-type: none"> <li>consistent curriculum focused on educating students to prevent adverse effects</li> <li>role models who are integrated into the system</li> </ul>	<ul style="list-style-type: none"> <li>cultural shift to allow admission of errors</li> <li>education of whole health team (including educators)</li> </ul>
<b>Teamwork</b>	<ul style="list-style-type: none"> <li>explicit teaching of principles of teamwork and conflict resolution</li> <li>active inclusion of students (with specific roles in teams, active observation plus structured debriefing, experiential learning)</li> <li>clear lines of communication</li> </ul>	<ul style="list-style-type: none"> <li>explicit recognition of teams</li> <li>education of educators (not always convinced of value of teamwork)</li> <li>to confront inhibitors</li> </ul>

<sup>a</sup> The national framework being developed by Walton et al could serve as a template for curriculum development in all medical schools and hospital training programs.

The group felt that health professionals could be better prepared for the areas of fitness to practice, safety and quality, and team-based health care. These topics should be integrated throughout medical education programs, rather than taught as discrete subjects; they should be assessed; and they should be part of a continuum of education from undergraduate to postgraduate study.

### ***Current system***

Some of the main issues with the current situation were:

- difficulties in progressing from medical student to intern (including variability in clinical skills of first-year interns, and lack of training in leading and working in teams)
- lack of agreement over core clinical skills and required level of competence, and duplication in efforts to define these
- inhibitors of teamwork, such as lack of clear roles (particularly for medical students), lack of protocols for effective changeovers, failure to recognise value of teams and complexity of systems.

### ***What we need***

The group identified a number of requirements to achieve the vision outlined above:

- national coordination on core competencies (for universities and hospitals)
- common tools/instruments (from undergraduate to postgraduate) that are generalisable and flexible and are based on consensus
- a system of credentialling for junior doctors
- explicit recognition of teams/teamwork in health system
- cultural shift at all levels (universities, hospitals, colleges, primary care)
- better state coordination
- drivers for educating educators (eg remuneration, link to continuing professional development, reduced indemnity fees, use safety and quality as starting point).

### ***Existing tools and systems***

The group also identified a number of tools and systems that are already in place and could be adapted to achieve the requirements identified above. These included:

- the core curriculum developed by some states (eg New South Wales), the safety and quality curriculum being developed by a group of undergraduate academics in Adelaide
- flexible models of delivery for interns developed by Queensland
- the United Kingdom definition of good medical practice
- teamwork models in areas such as emergency, oncology, paediatrics, which are characterised by clear roles for all in team and complementary functions

- curricula on the web (eg, the College of Emergency Medicine is an example of a college that has adopted the CANMEDS system,<sup>5</sup> the US Veterans' Administration and the National Centre for Patient Safety have both stressed the need to address patient safety, and the Royal Australian and New Zealand College of Anaesthetists has safety as a specific aim)<sup>6</sup>
- teaching models such as 'Teaching on the Run'.

## Implementation

To achieve the vision requires:

- an adequately resourced taskforce to develop a national curriculum, framework for core competencies, and strategies for implementation, creating links from medical schools to colleges
- starting with a cohesive approach to medical education and then evolve to health education, or have a national body, covering medical education, nursing and allied health
- consulting the following groups:
  - medical boards
  - colleges
  - medical schools
  - postgraduate medical councils (PGMCs)
  - government workforce
  - Australian Medical Association etc
  - consumers
  - medical defence organisations
  - insurers
  - medical societies
  - health departments
  - allied health registration councils
  - health/education ministers
  - Aboriginal and Torres Strait Islander bodies
  - General Practice Education and Training

<sup>5</sup> <http://www.acem.org.au/open/documents/fecurriculum.pdf>

<sup>6</sup> <http://www.anzca.edu.au/publications/reports/amcsub/intro.htm>

### 3. Hospitals, medical schools and clinical education

#### Vision

##### Culture:

- expectation of teaching (part of medical profession, but does not always work well)
- costs hidden (hard to know who is paying for what, what the costs are, who should pay)
- practice and remuneration changes are driving a culture change.

##### Effective leadership and systems:

- communication (not conveying adequate level of detail, not producing change)
- maximising learning opportunities (eg in private hospitals, new techniques).

##### Contractual expectation:

- institutional
- individual.

##### Adding value/mutual benefit:

- safety and quality (students could contribute to this, rather than being passive recipients)
- final year/PGY1 integration (could allow students to contribute and to act as teachers; for example, to colleagues and patients).

#### Implementation

The group developed a list of things that would need to happen in the short, medium and long term to achieve the vision set out above:

SHORT TERM	MEDIUM TERM	LONG TERM
<p>Leadership across continuum of medical education:</p> <ul style="list-style-type: none"> <li>• CDAMS</li> <li>• PGMCS</li> <li>• colleges (CPMC)</li> <li>• AMC</li> </ul>	<p>Dialogue and collaboration between:</p> <ul style="list-style-type: none"> <li>• DEST, DHA</li> <li>• states</li> <li>• health services</li> <li>• boards</li> <li>• AMA CDT/JMD forum</li> </ul>	<p>Full national training agency</p>

AMA CDT = Australian Medical Associations' Council of Doctors in Training  
JMD = Junior Medical Doctors' Working Party (DHA)

Some of the issues to be considered are:

- timeframe issues (need to define short, medium and long term)
- a crisis in the short term for clinical placements (currently not under control, do not have appropriate number of posts for PGY1 and Y2 from 2007 onwards)
- current and ongoing issues for teachers and supervisors
- industrial implications of any changes
- alternative settings (eg private hospitals, non-hospital training locations)
- the changing shape of the medical workforce (eg the introduction of nurse practitioners)
- funding implications.

### Assuring clinical teaching

To assure clinical teaching, the following changes are needed from the short to long term:

SHORT TERM	MEDIUM TERM	LONG TERM
Formal affiliation/relationship documents		
<ul style="list-style-type: none"> <li>• CDAMS (and dialogue group): - develop template agreements as model</li> </ul>	<ul style="list-style-type: none"> <li>• Commonwealth to include teaching and research in the next and future Health Care Agreements with the states</li> </ul>	
<ul style="list-style-type: none"> <li>• what do universities have to give in this? (tangible, intangible, research–teaching nexus)</li> </ul>		
Careful management of placements at a local level		
<ul style="list-style-type: none"> <li>• Involvement of PGMCS</li> </ul>	<ul style="list-style-type: none"> <li>• Ongoing implementation of an effective continuum, with novel initiatives and a clear focus on increased quality of experience</li> </ul>	
Practical solutions for teaching		
<ul style="list-style-type: none"> <li>• Recruitment and training of GP tutors for early experience</li> <li>• Recognition of all contributions</li> </ul>		

Some of the issues to be considered are:

- is the system cooperative or competitive (eg one hospital with two curricula)
- recognition of prevocational teaching
- establishment of a graduate diploma/certificate for teaching.

## 4. Medical workforce planning

### Vision

- Admissions and selection criteria — Better, more targeted alignment of student selection and support with workforce needs.
- Health–education nexus — Education needs to recognise that health is a national priority, and health needs to recognise that education adds value to health services. Need an environment where this recognition informs policy and resources, with communication, agreement and commitment to common goals.
- Reconfiguring the workforce — Needs to be done in terms of health care delivery; disruptive innovations will be needed (eg ‘changing mainframes to PCs’), which will lead to doctors being less protocol- and procedure-driven (more focus on cognitive skills and pattern recognition).

### Current situation

There is a global shortage of doctors, but student selection and support for workforce need to be better aligned. Currently, jurisdictional needs are not being met, with some areas disadvantaged; also, increasing indebtedness of students is skewing selection and career choice.

We do not have good predictors of success in medicine (exam results are poor predictors; geographical origin predicts access). The process of interviewing is fraught and is a crude mechanism for choosing students. Applicants are limited by the primary and secondary school system; by the time they come to apply for medicine, it is too late to intervene to improve options for students.

Some of the issues are:

- marketing of rural medicine within medical schools is a small part of the student’s decision (other factors include postgraduate experience, incentives and pre-university background)
- debt affects admission and has links to workforce outcomes
- Australia is facing a decline in the entire workforce
- there is a global doctor shortage and extensive translocation
- the health workforce is more complex than numbers and distribution
- there are huge barriers to redesigning roles in the health workforce
- targeting of students at year 12 is too late; intervention needs to come earlier (eg at primary school).

Currently, decisions on medical schools are not made by people with expertise in medical workforce planning. DEST will always lack experience of medical workforce planning, and thus relies on DHA and bodies such as AMWAC to direct universities to design medical education well. Therefore, communication between health and education needs to be strong at all levels. Although communication is improving, there is no clear authority, and consumers continue to be poorly involved.

The Minister for Health has endorsed the National Health Workforce Strategic Framework, and has asked the states to work on implementation.

### Implementation

Small changes will not keep pace with changing workforce requirements from 2010 to 2020; a more revolutionary approach is needed. For example, the nurse–doctor paradigm needs to change, and some elements of time-based training could be replaced by competency-based training.

Training could be shorter; for example:

- some specialists may not need certain procedural skills (many specialties do not require the current system of more than 10 years training in science-based physicianship; eg anaesthetists could be replaced by technicians)
- as generalists in a primary care team, students could develop a minimum set of easily transferable skills.

Training could also be more flexible; it could be seen as an ‘escalator’, where students can leave and rejoin at different levels (rather than the current situation, where everyone gets on at the bottom and gets off at the top for every discipline, which can be unnecessarily rigid and is a waste of time for some practitioners). This would fit well with the escalator concept, as generic skills would be more appropriate for role change and re-employment.

Changing roles could affect job satisfaction, as clinical and procedural roles reduce and managerial, supervisory and complex clinical roles increase.

A national medical education framework is needed to drive and coordinate change.

## 5. Medical education and clinical care

### Vision

As regards training in a clinical setting, across all levels of training:

- There should be national agreement on the specific outcomes expected at all levels of training, and assessment for competency should be matched to these outcomes.
- Medical education should produce a 'pluripotent' doctor at the undergraduate level, who can enter a training program that has inherent flexibility and integration, meaning fast tracking can occur through recognition of competence. In addition, defining core skills required by all doctors throughout their working life allows individuals to retrain in another area, again with recognition of prior skills.
- A single body should be responsible for training at all levels to ensure integration.

As regards where and how clinical teaching should occur:

- Virtually any setting can be a good clinical care learning environment if methodology used is appropriate, learning needs are matched, student learning styles are considered and there are adequate resources.
- Any new health service proposed must integrate teaching as a major component of the service, and be funded adequately to achieve this.

### Current situation

A significant proportion of medical education at all levels (undergraduate through to postgraduate) occurs in the clinical setting, whilst supervisors and trainees are delivering care, carrying out administrative duties and research. Two major problems exist. Firstly, there is currently discontinuity between different levels of medical education, and secondly, there are challenges in teaching in a variety of clinical settings currently used.

Firstly, as regards the discontinuity in medical education training, outcomes that should be achieved at the undergraduate, early and late postgraduate (specialist) levels have not been defined. In addition, how competence is determined at each level or in each state is poorly defined and highly variable. This leads both to gaps and to duplication in training. Without well-defined outcomes, trainees are less easily able to transfer employment or training across sites of service delivery, across disciplines or across levels, and health services cannot be confident about what skills a new employee has. The General Practice Education and Training (GPET) model involves setting standards and delegating training. It has been successful, and could be applied to both undergraduate and postgraduate levels, but is expensive.

Secondly, as regards learning in the clinical setting, clinical care and teaching occur concurrently. Clinical care can be viewed broadly and may involve individual patient care, or care as applied to a population, administration or research. Learning relates to developing clinical competence, and communication and professional skills (such as teamwork). Challenges relate to the difficulty in delivering care and education at the same time with little time, poor resources to support either teachers or learners, little flexibility which allows recognition of prior knowledge, adult learning or different learning styles amongst trainees and a system where clinical care is changing but education has not changed alongside these changes.



Teaching historically has been carried out in tertiary hospitals and this setting is still used extensively. The reasons behind this are: the universities traditionally based there have a significant input into the health services; they bring together resources, attract researchers (who teach), provide salaries for doctors (despite inadequate funding), and have some physical infrastructure (albeit inadequate) to support training. Most trainees staff the hospitals in junior positions. Recent challenges are increased patient turnover and sicker patients, with increased demands for service and less time for education. As most care does not get delivered in the tertiary setting, alternative sites are being explored. General practice has been used for many years and is being used more, although resources to support teachers are an issue. Other sites (community based, secondary hospitals) are underused and vary enormously in their success as learning sites. They offer their own challenges, such as the lack of junior staff, teachers or supervision.

### Vision

Defining outcomes is key to allowing the system to be integrated and flexible. Graduate outcomes and outcomes at each level of postgraduate training should be set nationally, as should assessment, which should be matched to outcomes, and ensuring core competencies are met. The group felt this would support a more flexible system, with a 'pluripotent' graduate who would be able to move into any area, and practising clinicians who could make career changes where desired, without losing recognition of prior learning, skills and competencies. This may allow fast tracking, for those who have reached competency in defined areas and who are clear about their career goals, rather than relying on 'time' (number of years worked) as the measure of competence. So trainees could specialise early if desired (eg fast track through PGY1 and PGY2 if competencies reached). The health system may need to change to accommodate the new graduate, providing more flexible options. Roles of trainees in the health service should be more clearly defined, as would outcomes. Fast tracking may help the current problem of shortages in practising clinicians.

It was felt a national body could play a major role in integrating the currently separate components of medical training. Initially, a major focus would be on agreeing to appropriate outcomes and/or defined competencies, and possibly assessment. Subsequently, an integrated approach to training which allows flexibility for training between training groups should occur. These groups include the universities, CDAMS, AMC, prevocational councils, medical boards, health services and specialist colleges.

As regards where clinical teaching should occur and how, it was agreed a wide variety of settings were appropriate. These included:

- Clinical care settings (including inpatients, outpatients, day hospitals, multidisciplinary team meetings, house calls etc)
  - primary
  - secondary (district hospitals)
  - tertiary.
- Inpatient and outpatient settings
- Rural and urban settings
- Private and public settings (eg specialist rooms, private hospitals)
- Community settings — Community health centres, Royal Flying Doctor Service, hospices, mental health institutions and any other organised health services
- Other — Paramedic and ambulance teams, pathology laboratories.

All these settings would be appropriate as long as the educational environment is addressed. This includes looking at:

- Explicit learning outcomes, with methodology specific for those outcomes and matched to the learning needs of the individual
- Outcomes appropriate for each setting
- A balance between student-centred teaching and patient-centred care (with needs and roles of both defined and agreed)
- Ways of learning (matched to setting)
- Support for learning (may include clinical skills laboratories, libraries and online modules)
- Infrastructure support (eg patient attendance in clinic, administration, space, adequate rooms, access to computers)
- On-site supervision (teacher, organiser, provider of formative feedback)
- Support and rewards for teachers.

As noted above, teaching should be more flexible, recognising prior knowledge, incorporating different teaching methods (eg problem-based learning, scenarios and traditional teaching). It will be the responsibility of universities to ensure that students are well orientated and prepared.

Teaching should be better funded, and recognised as a priority alongside the development of any health service. The percentage of clinical academics assigned to teaching and service delivery should be reviewed to increase clinicians' ability to teach. Any new health service proposed must integrate teaching as a major component of the service, and be funded adequately to achieve this.

**Requirements and implementation**

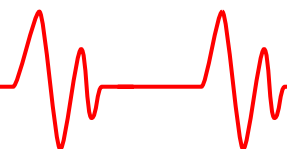
An overarching body is needed to debate and define the outcomes of the continuum of medical education, and to ensure that there is ownership of any change (rather than it being imposed). Achieving the vision would require ministerial leadership, with the education and health portfolios working together. A first stage would be to set up a think tank, to remodel continuity of assessment, define outcomes, set standards and engage stakeholders.

The group felt that a statement was needed defining health care, which combined service and education.

In a second stage, that body would define outcomes, the roles of current and future stakeholders, and the educational outcomes of clinical settings (hospitals with and without high numbers of junior doctors, community-based clinics, public and private day surgeries, Indigenous health, synthetic environments and private practice). Use of a wider range of clinical settings (including private) may require issues such as indemnity to be addressed.

In terms of learning models, a specific model might be needed for different settings such as rural health, and multi-professional settings (eg aged care, palliative care and mental health). It was felt that new methods of health delivery could be established, focusing on currently defined areas of need (mental health, aboriginal health, general practice, outer metropolitan services) that embodied important principles currently not well incorporated into services, such as teamwork and multi-professional care. This would allow both modelling of care and education of a new generation of health workers.

Barriers to achieving the vision include reimbursement, employment issues (public and private indemnity), access to a range of settings, ownership of trainees, service versus training, and the 'unbundling' or 'bundling' of funding.



## 6. Professional standards and students' education

### Vision

- Professionalism is the collective and individual responsibility to accept a duty of care to one's patients, self, colleagues and community. The ethos of professionalism is an emergent property of the learning environment that can be made explicit by the educational process.
- Vertical integration of the culture of professionalism is needed at all levels of medical education, guided by accreditation and appraisal processes; this requires a culture shift, a framework and drivers to make it happen.
- The development of professionalism must be an engaging process led by the clinicians involved in education and owned by the entire health sector.

### ***Current situation***

Professionalism involves values such as altruism, accountability, integrity, honour, excellence, social justice and respect, but can be encapsulated by the term 'duty of care'. The group identified a number of individual and collective responsibilities associated with professionalism:

- professional competence
- honesty with patients and others
- patient confidentiality
- appropriate relationships
- improving quality of care
- just distribution of finite resources
- scientific knowledge
- management of conflicts of interest.

The group also identified factors that militate for and against professionalism, shown in the table below.

AGAINST	FOR
• financial pressure	• valued as professionals
• life balance	• integration from undergraduate to vocational training
• morale	• feedback from students
• private versus public	• nurturing teams/culture
• industrialisation of workforce	• training of clinical educators
• client versus patient-centred care	• cross-professional support
• short-term service versus long-term education	• acceptance of level of responsibility
	• 360° appraisal from students — accountability
	• observation and monitoring

### **Requirements**

It is important to recognise the informal and hidden culture that surrounds professionalism. Clinicians would lead the process (guided by accreditation and appraisal processes), but would need to engage the health care system in the debate, making clear the financial value of professionalism in terms of patient safety (research is needed to clarify the costs and benefits of professionalism or lack of it). Ultimately, the process of change needs to involve all stakeholders (political, administrative, professional, educational, health system) and be owned by the entire health care system. Any change would have to be adequately resourced, and would require training of medical educators.

## Implementation

The group proposed a vertical integration at all levels of medical education to support the culture of professionalism. Professionalism would be emphasised from the first day of undergraduate training through to continuing professional development, and would integrate all teaching locations. The responsibilities and expectations of the profession would be made explicit, professionalism would be both taught and assessed, and health outcomes would be equated with professionalism (the default approach is legislation, which is what has occurred in the United Kingdom).

Processes for teaching and assessment of professionalism could be formal and informal, as shown in the table below. These should be across the educational continuum from undergraduate to continuing education, and involve three methods:

- individual reflection and appraisal
- organisational learning, such as through accreditation and assessment
- monitoring sentinel events, such as critical incidents.

EDUCATIONAL CONTINUUM	INDIVIDUAL REFLECTION AND APPRAISAL	ORGANISATIONAL/ CLINICAL LEARNING ENVIRONMENT	SENTINEL EVENTS
<b>Undergraduate</b>	<ul style="list-style-type: none"> <li>• OSCE</li> <li>• formative assessment                             <ul style="list-style-type: none"> <li>- portfolio</li> <li>- peer assessment</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• mentoring</li> <li>• team teaching</li> <li>• student assessment</li> <li>• accreditation</li> </ul>	<ul style="list-style-type: none"> <li>• student misconduct</li> <li>• impairment</li> <li>• harassment</li> <li>• traumatic events</li> </ul>
<b>PGY1 and 2</b>	<ul style="list-style-type: none"> <li>• appraisal</li> <li>• performance review</li> <li>• interaction with professors</li> </ul>	<ul style="list-style-type: none"> <li>• accreditation of sites</li> <li>• interview</li> <li>• team culture</li> <li>• mentoring/support</li> </ul>	<ul style="list-style-type: none"> <li>• interns identified as 'not coping'</li> </ul>
<b>Vocational</b>	<ul style="list-style-type: none"> <li>• 360° appraisal</li> <li>• portfolio</li> <li>• supervisor issues</li> </ul>	<ul style="list-style-type: none"> <li>• accreditation                             <ul style="list-style-type: none"> <li>- integrate</li> <li>- culture</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• periods of unsatisfactory training, adverse events, which are dealt with more seriously</li> </ul>
<b>Continuing professional development (CPD)</b>	<ul style="list-style-type: none"> <li>• OSCE</li> <li>• appraisal</li> <li>• compulsory peer review?</li> </ul>	<ul style="list-style-type: none"> <li>• accreditation tests?</li> <li>• indemnity?</li> </ul>	<ul style="list-style-type: none"> <li>• medical boards, complaints commissions, performance appraisals</li> </ul>

The first step would be a scoping study, as for the safety and quality framework. It should involve universities, the postgraduate medical councils (PMCs), medical colleges and the AMC, and would require funding from DHA. A pilot appraisal could be carried out at PGY1 and 2, and in vocational training.

## 7. Accreditation and registration processes

### Vision

- Continuum of accredited learning environments — link to individual registration.
- Move balance from process to outcomes and competencies (not just time based).
- Accreditation should show how training bodies demonstrate responsibility to stakeholders and responsiveness to health outcomes.

### Current situation

#### *Continuum*

The AMC is an independent body responsible for setting standards in medical education. This independence is important and must continue. However, there is no uniformity in accreditation processes across the fields of medical education; nor is there a national policy for registration. There is also fragmentation (between medical schools, interns, colleges etc), and problems such as rigidity and lack of clarity about standards at different levels are embedded in the system.

Therefore, a transparent process is required, with all bodies talking to each other, with a continuum of accredited learning environments. At each stage of training there would be agreed core competencies, which would also be linked to registration. Desired improvements would be facilitated by dealing with one group, rather than the four groups that are currently involved.

#### *Balance between outcomes and competencies*

At the moment, there is a timeframe for undergraduate studies. For example, an undergraduate medical degree takes four years, regardless of how the students have performed throughout the course. An alternative to this system could be competency-based accreditation. This would particularly benefit students who could be fast-tracked, but leads to the question of when students should specialise.

#### *Role of the community*

Despite much talk in medical education about societal responsibilities, little is actually done about this. There is a need to find out what society wants the health care system to do for it. For example, there are now larger numbers of older people with multiple problems, so students need to be taught to deal with such individuals (eg by taking students into the community). Training institutions must demonstrate responsibility to the shareholders and to health outcomes.

To facilitate input from stakeholders we need to:

- provide better information on medical education and training processes
- develop partnerships and capacity-building measures
- engage stakeholders at all levels and be open to their input.

### Implementation

An overarching body was suggested, with a potential title of 'National Health, Education and Training Council'. It could be structured similarly to the National Health and Medical Research Council (NHMRC, ie a statutory authority reporting to one or more ministers). It is important that it be a true collaboration, and not competitive; that is, there should be shared ownership, not control.

This body would relate to the NHMRC and relevant health and education bodies; it would report to the federal Health Minister via the Australian Health Ministers' Advisory Council (AHMAC), and would include representatives from:

- training and services providers
- jurisdictions/Commonwealth
- community/consumers/stakeholders.

The role of the national body would be to implement a continuum of medical education by:

- agreeing on core competencies/capabilities/skills and attributes at each level (integrate OTP and CMO pathways)
- taking into account workforce issues and health outcomes and appropriate models of care
- bringing together all players in the system and making them a part of the governance
- bringing employers into education and training
- moving medical schools from the university structure into the health service delivery structure
- facilitating cooperation between the states without unbundling money
- looking for additional funding for improvements in medical/health education.

Together, this would lead to a national registration system. A practical means for establishing this body could be for CDAMS to submit a strategy paper to the health ministers through AHMAC.



## 8. Clinical practice, educational delivery and curriculum development

### Vision

- Identify the stakeholders.
- Develop a 'symbiotic' curriculum.
- Determine clear outcomes driven by community priorities.

If curriculum is a tool to achieve outcomes, it is important to define the outcomes to be achieved at years 1, 5 and 10. This raises questions of how the outcomes would be determined and evaluated.

The group considered a number of questions, summarised below.

#### Basic questions:

- What/who is a good doctor?
- What is the process for deciding what we should produce?
- What are the professional attitudes and behaviours that we want to model (and how do we assess them)?
- Are our graduates 'useful' to the health service/community/patient/society?
- How are our graduates perceived internationally?

#### Curricula and outcomes:

- Are these based on health needs?
- Are they too vocational?
- Can we design a curriculum so that teaching locations get a 'gain'?

#### Stakeholders:

- Who are they and how do they have input (is this by right or by expertise?)

#### Universities and clinical settings:

- How do universities support students in various clinical contexts?
- Are the universities paying their way?
- What are the commitments of the clinical settings to training?
- How do we contribute to those who take students?

Student support and transition:

- What is the role of 'student case manager'?
- What is the role of later-year students in teaching more-junior students in a clinical setting?
- How do we move from undifferentiated intern to specialist?
- How long should clinical placements be?
- What are the future assessment models?
- Where is the evaluation data?

### Implementation

#### **Stakeholders**

Currently, it is not clear who the stakeholders are and how they are involved in medical education. Therefore, we need to examine the current situation and determine if it is adequate. We need to find ways in which stakeholders can participate in decision-making about the curricula of medical schools through course advisory committees or other mechanisms.

#### ***'Symbiotic' curriculum***

The undergraduate curriculum should align its educational goals with the service delivery needs of the health system. A symbiosis should be created in which both the learner and the clinical environment can gain, which would help the whole system to run more smoothly. Currently, students often feel that they are imposing in the clinical setting. If both sides can 'gain' from the experience, then students will get a more meaningful and real role ('authentic learning'). However, this requires changes in the degree of observation and supervision (eg moving away from short rotations, attaching students to clinical environments for longer). This will mean that clinicians' time will need to be used as economically as possible; also, it would require support from the universities and colleges.

#### **Community**

If possible, medical education should have clearly defined outcomes, and these should be driven by community priorities. Engaging stakeholders will require partnerships with universities and involvement of universities, colleges, governments, communities and health services. Currently, there are no national structures that allow engagement of all these players, so such a structure is needed.

## 9. Basic sciences in the undergraduate curriculum

### Vision

- Given the time constraints, the increase in scientific information available and societal expectations, we need a better balance in the basic sciences taught.
- There should be an emphasis on clinical relevance, and this should be determined collaboratively across the continuum of medical education.
- Teaching and assessment should be health outcomes based and continually reviewed.

### ***Balance between disciplines***

The amount of scientific information that is available is continually increasing, and societal expectations are changing (eg people expect doctors to be better communicators). Therefore, we need to consider both the old and the new 'sciences', and include social sciences in the 'basic science' curriculum. The actual amount of time available seems to be sufficient for teaching of basic sciences, but there is a lack of balance between the disciplines that make up the basic sciences. Resources are needed to determine how much of each discipline is required, both now and in the future, as the picture is constantly changing (eg in 10 years time there will be new disciplines).

### ***Clinical relevance***

For all disciplines, there must be an emphasis on clinical relevance; determining what is clinically relevant requires a collaborative effort. Currently, there is not enough communication between basic scientists and clinicians, so the exchange of ideas between these groups must be facilitated. Also, basic sciences are constrained to the earlier years of a medical degree, but they could be shifted into the later years of the degree. By better engaging basic scientists and clinicians, the teaching of basic sciences in later years and beyond (after graduation) will improve. There is a need for a continuum of learning, from undergraduate to continuing professional development.

### ***Quality of teaching***

Since the amount of basic science being taught is sufficient, the focus now needs to shift to the quality (eg teaching, curriculum, clinical relevance etc). Quality depends on factors such as individual teachers, rather than the type of curriculum. Outcomes need to be continually reviewed.

### Implementation

#### ***Guidelines for curriculum***

To achieve the above vision requires national agreement on the scope and content of the basic sciences to be covered in undergraduate curricula. This could be developed by CDAMS, with input from AMC, the colleges, student representatives, PGMC, health jurisdictions and community representatives. The product would be in the form of guidelines, rather than being prescriptive.

#### ***Basic science workforce***

Once the content of the basic sciences has been determined, each institution needs a depth of knowledge in each area. In particular, there must be support for teachers in areas where research proposals are not competitive (eg anatomy, physiology).

Recruitment needs to be examined in the context of the current uncompetitive environment. We must build on existing science teaching strategies (perhaps with a national initiative) and laterally consider the use of teaching resources, both now and for the future. Careers could be structured so that there are exit points from existing degrees into the field of medical education.

One means of promoting teaching might be involving postgraduate trainees in teaching at universities.

## 10. Links between stages in medical education and training

### Vision

- A complex, adaptive, flexible system with a transparent pathway (in a defined minimum period) with universally acknowledged linkages to educate safe medical practitioners by the end of medical school, under appropriate supervision; train independent practitioners by the end of vocational training.
- A well-defined road map through the training pathway of the vocational options.
- A coherent, well-articulated system for supporting and coordinating this flexible system.
- Continuity of certification between medical school and prevocational (intern, PGY2) and vocational career.

Universities provide education (ie knowledge), whereas clinical centres provide training. Currently, there is tension between the aim of producing functional interns, and supplying workforce needs for training professionals who can deal with changing Australian health care needs (eg the increasing burden of chronic disease).

### *Reducing the length of training through flexible systems*

In shortening training, there is a danger that graduates could enter a specialty without thinking or experimenting. If interns have to specialise earlier, then they need modular training and established flexible training packages to allow them to move between training programs. Final-year medical students must have the core skills necessary for basic clinical response; this would allow the first year postgraduate to be vocational immediately. Such an approach would avoid narrowing the general learning that is required during the undergraduate degree. It is critical that varied medical school curricula should be able to produce consistent outputs with minimum baseline skills. The elective would then allow students to pursue personal/professional interests. The key is to consider training across the entire health system.

### *Road map through the training pathway*

Premedical, committed students require a road map articulating the paths to get where they want to go. There should be a clearly defined structure and a transparent pathway. However, it is important to consider whether the map presupposes a barrier exam/assessment at each boundary. If it does, then there is a need to determine how to draw the boundaries.

### *Supporting and coordinating medical education*

Hospital CEOs are responsible for pre/vocational training, but are not appraised. The role of health services is critical for gaining access to clinical teachers. How can we reverse the trend of losing clinical training and research within the clinical setting? Clinical trainers do not have the necessary government funding and support. Proposed changes to pre/vocational training would require funding support at the hospital level.

The existing training programs at clinical sites must be reinforced before workforce disparities can be resolved. Uniform training for basic physician training nationwide would be highly advantageous and could benefit other colleges as well. A coherent, seamless, well-articulated system for supporting and coordinating the full spectrum of provision of medical education could be delivered in the form of a salaried position seated within the allied health service industry with a university title.

Who is responsible at each level? Currently, the 15 universities provide medical education (interfacing 8 health departments, thousands of hospitals, and 14 colleges). The postgraduate medical education councils are responsible for prevocational training (PGY1/2), but do not deliver it, and so are absolved of accountability. The area health services are the only common organisation.

### ***Continuity of accreditation***

Currently, to become certified, doctors have to pass through rigid structures such as medical school and specialty training. Medical education needs to be defined as a process from pre-med to qualification that takes less than 10 years. A flexible system is required that allows progression at the student's level of achieving competence, with flexible exams and assessment criteria matched to time taken to reach competence. There could be one supervising clinical group that supports and certifies medical students to intern level, then from prevocational to vocational levels. We need a mechanism to provide continuity and responsibility for service delivery and certification of competence.

### **Implementation**

1. Dissolve prevocational and vocational training barrier by embedding prevocational into vocational training:

- provisional college registration after PGY1
- national curriculum for the safe intern
- curriculum is imbedded into each college
- back-crediting of colleges to PGY1
- PGMC still manage PGY1 and non-college trainees
- allocation of interns to hospitals, based on choice
- maximise assessment of competency
- registration to medical boards.

2. Create a seamless, smooth transition:

- no end-of-course barrier assessment
- pre-internship program
- PGMC acknowledge what has been done in pre-internship so that training in PGY1 is not redundant.

3. Create position of a postgraduate dean of a national training authority to coordinate medical training in Australia:

- with professional credentials
- incorporating clinical sub-deans
- including administrative support
- making decisions and managing credits for training
- managing options from PGY1 to independent practitioner
- with a separate funding stream.

## 11. Recruitment and training of medical academics

### Vision

- Teaching must be part of the core business of health service.
- Scholarship/teaching must be a core role of a doctor.
- Collaboration is required between undergraduate and postgraduate systems to identify other teachers (flexible, alternative models).

Teaching is important, and people in the medical education system should be involved in teaching as well as in clinical care, research and administration. However, teaching does not currently appear to be valued in the health care professions. This has resulted in difficulties in finding a workforce for teaching and research in medicine (both for undergraduate and postgraduate). How will we provide for a future medical academic workforce in teaching and research?

First, we need to define the term 'clinical academic'. This can be done by looking at clinical academic positions in terms of the current roles, vacant positions (what do we seem to recruit?), responses to advertisements, schools' and health services' relations with, and expectations of, clinical academics.

### *What do we want?*

- Accountable teachers in universities, the health care system and in the community.
- Recognition/valuing of teachers.
- Health services that prioritise teaching/value teaching:
  - teaching viewed as integral to health service delivery (performance indicator?);
  - recognition of teaching as core business.
- Teaching of teachers.
- College involvement with training and assessment, which depends on the university to value input to postgraduate as well as undergraduate teaching.
- Core roles for doctor as learner and teacher.
- Clearer, more flexible views about roles: who, how, and more evidence.

Questions that remain include:

- What is a teacher? What are the expectations of a teacher?
- What 'models' operate now?
- How should we train teachers? Should university and colleges be part of basic training?

Most issues are common to undergraduate and postgraduate areas. There would be huge advantages if those sectors could come together and plan, 'training the trainer' etc. As a collective they would have more power to influence policy in government and identify other teachers.

## 12. Medical education and Australian health priorities

### Vision

- A map is required of how health priorities are covered at undergraduate, prevocational and vocational levels.
- Funding should be directed towards provision of supported clinical experiences in areas of service/workforce need.
- Need to adopt rural/Indigenous program aspects at all levels (positive experience, support, prior interest, role models)

### ***Coverage of health priorities***

The group discussed the definition of the term 'health priority'. Currently, there are disease-based priorities, but what about broader priorities such as rural and remote health, Indigenous health and aged care?

There is pressure to include specialised issues (such as health priorities) in the undergraduate curriculum. However, continuous compression of the curriculum puts pressure to cut components or electives, making it more difficult to fit in the health priorities. Also, can undergraduate curricula respond to changing health priorities, or is the postgraduate (prevocational, vocational or CME) environment better suited to this? Another question that arose is how priorities should be covered within the curriculum.

### ***Influence career choice to address priorities***

The coverage of health priorities in medical education does not translate into doctors working in these areas. Why is this? We need to understand the drivers/attractors required to get people to work in certain fields. There is evidence that career choice is not predictable; it depends on many factors, such as knowledge and interest in the area, remuneration, family commitments etc.

More supervisors and role models are needed to encourage students to go into the health priority areas. Students also need to have positive experiences when they go into community settings.

Overall, we need a system that can deliver effective clinical trainers at every level. This requires a major culture change and needs to be tackled at the hospital level.



## Implementation

Ways in which the vision can be implemented include:

- teaching the teachers
- adequately supporting teachers
- streamlining funding in these areas (federal, state)
- credentialling skills (undergraduate, prevocational)
- getting hospital staff to understand curriculum
- sponsoring visiting medical officers to do postgraduate education training.

A map is needed of how the health priorities are currently being covered at undergraduate, prevocational and vocational levels. This could be used to show how to link them together, (ie look at map, look at areas of overlap and determine where we can influence career choices, marketing of pathway).

To address the problem of not getting doctors in the health priority areas, funding must be directed towards provision of supported clinical experiences in areas of need. The Rural Undergraduate Support and Coordination (RUSC) program has successfully promoted rural general practice among undergraduate students. It may be possible to create similar programs in other health priority areas. Another possibility is to use bonded medical place funding to go into priority areas rather than regions. Higher Education Contribution Scheme (HECS) credits could be used to target priority areas.

The distribution of programs also needs to be addressed. For example, does every medical school need a focus on rural/remote? Would it be better to have one Indigenous program in each state? There is a challenge in getting an Indigenous focus across both city and rural schools.

The Rural Undergraduate Support and Coordination (RUSC) Program was developed as part of the GP Rural Incentives Program. The program promotes rural general practice among undergraduate students, providing them with support and opportunities to undertake placements in rural general practice. It is funded by the Australian Government Department of Health and Ageing, which distributes funds to individual medical schools and coordination agencies involved with liaison between medical schools, rural practitioners and communities. The program also supports special projects of national significance.



## Implementing the common goals



MedEd2005





# Visions, goals and outcomes: challenges for implementation

**Robert Wells**

**Director, Policy and Planning (Health), Australian National University**

To turn visions into reality you need to know the key stakeholders, the context in which they operate, and their concerns and desired outcomes. You must also understand policy processes. The challenge is selling your vision, whatever vision that is, and persuading others that it is in their interests to be a part of making it happen.

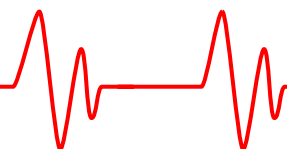
Medical education has an obvious list of stakeholders: universities, education and training bodies, government health providers, regulators, teachers, students (particularly potential students who will be the victims of our vision in the future) and the public as consumers all have vested interests. However, each stakeholder has a range of pressures, and medical education will, to a greater or lesser extent, only be part of the context in which they operate. We need to demonstrate to each stakeholder how our needs and plans for medical education relate to their needs and the pressures that they face.

All stakeholders are affected by things like globalisation, the economic environment, and social and demographic changes. Some are more concerned about developments in health, such as quality improvement, safety, or funding and resources, and some are focused on the higher education environment. Each stakeholder, however, is subject to the workforce imperative, including, for example, free trade agreements. The United States — Australia Free Trade Agreement has implications for the cost of drugs, and therefore also has implications for our health system and the distribution of resources among service provision and research and training. Governments are concerned about balancing budgets and there is an economic rationalist approach on both sides of politics. There is concern about the fluctuating cost of health to the economy, because the percentage of gross domestic product spent on health has increased from 8.5% to 9.5% over the past decade. Some items, such as the Pharmaceutical Benefits Scheme, actually seem to be out of control. Health costs are increasing at a rate significantly higher than general inflation.

## The state of the workforce

We are all familiar with intergenerational issues and the concern about increasing dependency as more people retire and fewer people enter the workforce. The workforce shortage is one of the major imperatives of medical education, and is felt acutely in the health sector as well as across the economy. A number of factors influence the shortage in the health workforce, including shorter working hours (both by choice and by decree), and longer training times for specialties. The lengths of training times have increased, rather than decreased, over the past decade. The growing tendency to specialise instead of becoming a generalist is concerning, and the problem is intensified by the lower number of school leavers in the long term as our population demographic shifts.

These workforce changes are significant drivers for policy and practice changes, and they should be seen as an opportunity, rather than as a threat or a problem. Health care has changed and has become more complex. More treatments are available, there are more multidisciplinary team approaches to care, and patients are better educated and want to know more about their health. They have access to more information and they are prepared to invest their money where they think they will get the best return. Patients are also witnessing enormous investments in alternative and complementary therapies.



What does all this mean for medical education? These are the sorts of questions that we have to answer. Universities are being redefined as we speak. Changes are occurring in the higher education sector, and a local market in medical school places is developing. The average entry age for medical students has increased from school leavers to people in their mid-twenties. Medical courses are now more clinically focused and there is an increase in the proportion of training that occurs.

### The context of medical education

Successful changes to medical education are based on sound policies, and sound policies must adhere to certain criteria, such as being evidence-based, rational, balancing interests, long term and open and accountable and objectively evaluated. However, sometimes these features do not become apparent until a policy's implementation stage. Often, new policies are perceived to be reactive, ad hoc, responding more to specific rather than general interests, addressing the short term, and secretive in their development. Although evidence and rational processes should not be disregarded, rational policies also need to meet day-to-day and current concerns. It is important that you understand policy, both as a rational process and as a real world activity. Medical education is a continuum. It takes a long time to become an independent medical practitioner and there are many players along the way. Although there are links along the continuum that often overlap, sometimes those links are not as good as they might be.

### Problems with medical education

The medical education model has not changed significantly in the past century; however, the rest of the medical health system is constantly changing. Consequently, we have a training model that has not adapted to service a rapidly evolving health care system. Trainee doctors often spend much time waiting for their next stage of training. Perhaps we need to rethink our approach to medical education and training from the ground up, and ask ourselves what the product is and what skills need to be applied during the different stages of a medical career. We have a 'one size fits all' approach to medical education, which seems to be time, rather than accomplishment, based. People who have done the time and passed the necessary assessment or exam are suddenly experts and are presumed to possess all the necessary skills. However, these skills can also be acquired over a longer period of time, and so should be able to be applied progressively as they are learned.

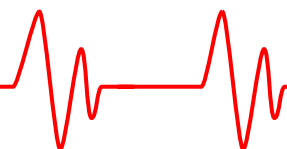
There is also the question of how much general knowledge practitioners require. For most of their career, or at least for significant periods of it, medical practitioners will work in a highly specialised field and not apply much general knowledge. It might be possible to stream some of the training during medical school to prepare for entering a specialty. Some students might know what they want to do early in their medical school period, and further experiences will not greatly influence their choice. Perhaps the early postgraduate years (PGY1–3) could be directed towards meeting some of the basic college requirements. Most colleges begin training programs with a general component, followed by a more advanced period. Why do we need a general period of PGY1–3, and then another general period in each specialty? Common core elements might negate the need for each training program to have to have its own unique features from the beginning to end. Perhaps there could also be exit points in specialist programs to allow those students who change specialties to gain credit for what they have already achieved in one training program, rather than having to start all over again. At most universities now, students can enrol for master's coursework but exit with a graduate diploma or another qualification if, for whatever reason, they decide not to complete the full master's program. It is reasonable to expect the same for medical specialty training.

For this to occur, however, there will have to be some structural changes: someone must be accountable for medical education and training. I referred earlier to the continuum of medical education and the various players along the way; however, I did not refer to the different funding sources, or the different authority points in terms of states, hospitals and the Australian Government. The diversity of the Australian health system is reflected in its diversity of funding sources. However, maybe the system needs some reorganisation. Perhaps the federal health minister could become responsible for all the health work or education and training. If all the funding sources are combined, the Australian Government invests more into education and training than anyone else. Thus, it seems logical that it should assume national responsibility. Perhaps the minister could be supported by a national medical training authority, which would be responsible for ensuring that training at all levels through the system, work with existing authorities rather than compete with them, and control the health training budget.

## Conclusions

By the end of today, when we have agreed on our key objectives or key changes to the health education system, our challenge will be to identify the key decision makers at each step of implementation, and to identify stakeholders and when they might become involved. We need a good understanding of the context in which the stakeholders operate, and the constraints that limit what they can do. These constraints might be financial, as well as policy-based. We also need to recognise stakeholders' primary concerns. For example, if their primary concern is the growth in health outlays, our plan must help them to solve that problem (or be seen to be helping that problem), otherwise it will simply distract them. In summary, you must understand the context and whom you have to influence, and have strategies to achieve that, rather than simply having the perfect plan or vision.

I think that the way ahead is much like climbing a mountain. You scratch your head and look around and try to head to the setting sun, but instead are surrounded by hills. You constantly travel down valleys and up hills, and you hope that you are heading in the right direction. Eventually, you will get to the top of a particular hill, but you will find that there is still another hill or series of hills beyond. This is not a message of pessimism but, rather, one that emphasises the need to keep working at it.



## Recommendations

On the final day of the conference, delegates in the 12 discussion groups focused on developing practical strategies for implementing the common goals. From this process, the conference agreed on eight major recommendations which reflected core issues that had arisen across groups and topics. These recommendations are given below, together with the rationale behind them.

### Recommendation 1: Establish a national health care education council

A national health care education council should be established and funded by the AHMC (and therefore report to AHMC) but should be independently incorporated.

Membership should include all stakeholders, including universities and other education providers, consumers/community, regulators, government and other health providers, professional associations and unions, and students.

The terms of reference for this council would be to:

- establish a framework for policy development for health care education in Australia
- collect appropriate evidence to inform policy development
- develop policy to address identified problems in health care education
- promote collaboration between stakeholders in health care education.

The council should cover the entire spectrum of health care (including workforce needs etc), rather than looking at medical education in isolation. For this reason, the term 'health care' was deliberately included in the council's title. Delegates felt that such a group would work best through one ministry (rather than straddling both the health and education portfolios). It was felt that the health ministry was the most appropriate.

To avoid a 'top-down' approach, the conference suggested that it would be useful to bring together key individuals from the relevant groups to start the process. To ensure that all stakeholders are represented, it might be necessary to explicitly nominate people (especially community representatives, trainers, doctors at all stages of training etc), who could then work together and present their recommendations to the minister.

### Recommendation 2: Define competencies and curriculum content for different stages of medical education and develop processes to achieve these

Currently, registration and accreditation focus on processes rather than outcomes. The conference favoured a more flexible approach that would link progress to competencies rather than time spent in education and training. This was illustrated using the concept of a career 'escalator', where it would be possible to get on and off at different professional levels, rather than everyone following a single predetermined path (see Discussion Group 4 — Medical workforce planning). Delegates identified the need for a framework, so that individuals would be aware of the 'escalator' concept and the career options available to them.



It was suggested that CDAMS could establish a taskforce to look at all basic sciences (including behavioural and social sciences) and other clinical discipline areas (the relative contribution of some basic sciences and clinical disciplines will continue to change, as will the point in training at which individuals need to acquire specific knowledge and skills). The taskforce would need sufficient resources to get views from different stakeholders on the competencies and curriculum content required. The aim could be to create a 'core curriculum' (although this should not be prescriptive).

### Recommendation 3: Review clinical teaching and learning

Delegates agreed that there needs to be further thought and planning on how to improve clinical teaching and learning — how and where it is delivered, and how it is resourced. Australia needs a national taskforce to examine worldwide best practice in this area. This could be a partnership between universities and colleges. Given that any changes should be informed by evidence, it may be necessary to look at international theories about work-based learning.

Those delivering health care need to think about their responsibilities to teaching providers. For example, hospitals could have a line item in their budgets for training (at present, hospitals may be receiving funds for this area but not providing sufficient training).

Making changes to funding of clinical teaching and learning may require costs to be 'unbundled', so that it is possible to determine where current funding comes from (New South Wales is currently working on this to some extent).

Health care education and training need to be on the agenda of state and Commonwealth health and education ministers. Currently, there is a 'disconnect' between health service delivery and policy changes, and between those teaching clinical students (eg the medical colleges) and the universities (although GPET is a partnership between the universities and the colleges).

### Recommendation 4: Review use of potential teaching environments

Currently, many clinical teaching sites with excellent educational potential are not being utilised. Therefore, each site should be considered in light of the educational benefits, appropriate teaching methods, educational environment and resources, indemnity issues and any other relevant factors.

This could be a national project by the national health care education council. Any initiative should be evidence-based, and should look first at existing literature and research on using community-based sites as teaching environments.

### Recommendation 5: Marry medical education with other health care workforce needs

Medical education must match the needs of the health care workforce, at a whole-of-system level. Suggestions included:

- reviewing admission policies
- defining the goals of the undergraduate period
- defining the role of the prevocational period
- developing flexible models of specialty training
- scoping for models of education and service delivery in areas such as Indigenous health, mental health and aged care.

Currently, every part of the health workforce is understaffed, so the strategy of substitution (eg of nurse practitioners for doctors) solves some problems but creates others, as it simply leaves different areas short-staffed. Other suggested solutions included:

- more specific education (eg some tasks require technical expertise rather than a broad education)
- a shorter route to specialisation for those wanting to specialise early (coupled with flexibility, so that people are not constrained later by early career decisions)
- admission policies tailored more strongly to workforce needs (eg policies and practice of tailoring to Indigenous needs)
- more flexible graduate programs, to encourage recruitment into areas of need and to make it easier for people to change careers.

Changes should be evidence-based — there is extensive literature available on what systems have worked (eg New Zealand has a successful program that takes students after a year in university). The issue of quality is also important; for example, adequate resources, backup support and infrastructure are essential for trainees sent to areas of need.

### Recommendation 6: Ensure that the wider health sector recognises that education and research are intrinsic to health service planning and delivery

Safety and quality should be valued at a local as well as a national level. In looking at any potential changes to the system, consideration needs to be given to how educational principles are embedded, what outcomes are expected and how to ensure that the desired outcomes are achieved.

Expertise in educational theory is required when designing these programs, and needs to be valued in our undergraduate and graduate training programs just as research skills currently are.

### **Recommendation 7: Provide a more rational and transitional process for career development/change**

The ideal situation for career development and opportunities is to have 'pluripotent' doctors who can re-differentiate as required. Currently, there are many barriers to this (see Discussion Group 10 — Links between stages in medical education and training). A possible solution could be for a recent medical graduate to become a provisional member of a medical college, which would then determine the focus of the student's first two postgraduate training years. Such an approach could ensure that the graduate receives the maximum benefit from training, with later recognition by the appropriate college. The colleges need to develop mutual recognition capabilities that allow for doctors to move efficiently from one clinical discipline area to another if they choose to, without compromising standards in any way. This can be achieved by all groups (undergraduate, early postgraduate and specialist groups) defining the outcomes required for each level of education and training, and identifying the core competencies doctors are expected to demonstrate irrespective of their stage or area of practice.

### **Recommendation 8: Define good medical practice**

The AMC should lead a project to clearly articulate core features of medical practice. The results should be used to underpin successful reform of the continuum of medical education and health service delivery. A final draft could be prepared by mid-2006, in time for accreditation by 2008.

The core features defined by the AMC should be included in an overarching framework for a true continuum of medical education (from undergraduate to continuing professional development) that addresses individual appraisals, the culture of the learning environment at the organisational level and sentinel/adverse events.

A scoping study is necessary to provide directions for implementation, including a cost–benefit analysis that would encourage stakeholder commitment (eg by universities, PGMC, colleges, AMC and DHA). Implementation would involve piloting the appraisal process and integrating the accreditation process.



# Appendices





# Appendix 1 List of discussion topics, group convenors and associated questions

<b>Building links between medical education and the health system</b>
<b>1. Policy development processes</b>
<b>Professor Lindon Wing, Chair, CDAMS</b>
Critically review the impact of federal and state health care and education policies on the delivery of quality medical education, and identify improvements to policy development processes.
<ul style="list-style-type: none"> <li>• What are the strengths and weaknesses of the current federal–state linkages with respect to the policy definition of medical education from undergraduate through to continuing education?</li> <li>• How will this be affected by recent moves to have greater control of higher education?</li> <li>• What other models exist for the delivery of medical education and how do they link to health delivery at undergraduate and postgraduate levels?</li> <li>• What needs to be done to rectify the weaknesses and to consolidate and sustain the strengths?</li> </ul>
<b>2. Fitness to practise, safety and quality and team-based health care</b>
<b>Professor Brian Jolly, Monash University</b>
Identify whether students are adequately educated about fitness to practise, safety and quality, and team-based health care, and how that translates into their future practice.
<ul style="list-style-type: none"> <li>• How well are our students and postgraduate trainees prepared to deal with these issues?</li> <li>• Are there deficiencies, or potential deficiencies, in their competence that will lead to compromised patient safety, or inadequate health care team deployment?</li> <li>• What do we need to do to address these issues?</li> <li>• What resources at undergraduate and postgraduate levels are required to facilitate learning in these areas?</li> <li>• How can activities in the health services at federal and state levels be linked to teaching at undergraduate and postgraduate levels?</li> </ul>
<b>3. Hospitals, medical schools and clinical education</b>
<b>Professor Allan Carmichael, Vice-Chair, CDAMS</b>
Identify strategies for hospitals and medical schools to build better relationships, and to improve the outcomes of clinical education more broadly.
<ul style="list-style-type: none"> <li>• What are the strengths and weaknesses of the current medical school–teaching hospital linkages with respect to the implementation and delivery of medical education at, and if necessary beyond, undergraduate level?</li> <li>• What measures need to be taken to sustain the expansion of medical school places?</li> <li>• How can medical school programs be organised so that teaching and clinical service are mutually enhanced?</li> <li>• What alternative models exist for training in clinical settings and how effective are they?</li> <li>• How can medical schools engage senior clinicians in initiatives to ensure quality and depth of teaching?</li> </ul>

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<b>4. Medical workforce planning</b>
<b>Professor Paul Gatenby, Australian National University</b>
Examine the regulation of funded student places, the impact of new selection/entry pathways and the role of student diversity in the future medical workforce, and develop improved processes for medical workforce planning.
<ul style="list-style-type: none"> <li>• What impact will the new regulations concerning student places have on undergraduate enrolment, placement, entry into the workforce and retention?</li> </ul>
<ul style="list-style-type: none"> <li>• What evidence is available of the impact of different selection procedures on career choice and retention?</li> </ul>
<ul style="list-style-type: none"> <li>• How can workforce planning and educational preparation be better attuned to the health care needs of Australia?</li> </ul>
<b>5. Medical education and clinical care</b>
<b>Professor Fiona Lake, University of Western Australia</b>
Investigate how educational frameworks and settings incorporate, and are incorporated by, clinical care frameworks and settings.
<ul style="list-style-type: none"> <li>• What is the balance of medical education in primary, secondary and tertiary care?</li> </ul>
<ul style="list-style-type: none"> <li>• What are the opportunities for learning and how well utilised are these opportunities in each setting?</li> </ul>
<ul style="list-style-type: none"> <li>• What are the challenges of educating students in each of these settings? What implications does this have?</li> </ul>
<b>Professionalism in education and practice</b>
<b>6. Professional standards and students' education</b>
<b>Professor Mark Harris, Australian Medical Council</b>
Describe what constitutes excellent professional standards, how students are educated about and assessed against those standards, and what, if any, changes are necessary to improve professional standards.
<ul style="list-style-type: none"> <li>• What should the current professional standards be, for both education and medical practice?</li> </ul>
<ul style="list-style-type: none"> <li>• How do our students and postgraduate trainees measure up to those standards?</li> </ul>
<ul style="list-style-type: none"> <li>• How does our medical workforce measure up against those standards and how good are they at teaching and role modelling standards to trainees?</li> </ul>
<ul style="list-style-type: none"> <li>• Are there deficiencies, or potential deficiencies, in trainees' competence that will lead to deteriorating professional standards?</li> </ul>



**7. Accreditation and registration processes****Professor Richmond Jeremy, Australian Medical Council**

Describe how accreditation and registration processes for individuals and institutions can be improved to better reflect stakeholders' needs.

- Are accreditation and registration processes for individuals and institutions adequate?
- Are institutions sufficiently accountable to a range of stakeholders?
- What measures need to be taken to improve accountability?
- Are the current accreditation processes sustainable and what is required to maintain quality?
- Is there a role for the community to be more engaged in accreditation processes?

**Curriculum development, assessment and review****8. Clinical practice, educational delivery and curriculum development****Professor David Prideaux, Flinders University**

Assess the links between clinical practice, educational delivery, curriculum development, and curriculum assessment, and describe how these links can be better negotiated.

- How are curricula determined in medical schools? Are all relevant stakeholders involved?
- Are curriculum and assessment methods aligned to clinical delivery?
- Does curriculum delivery enhance clinical service and provide meaningful roles for students in clinical settings?
- What best practice models exist for aligning training and service delivery?
- What is the role of government and community partnerships in designing and delivering curriculum that is responsive to changing health needs?

**9. Basic sciences in the undergraduate curriculum****Professor Peter Brooks, University of Queensland**

Weigh up the appropriate balance of basic sciences within the undergraduate curriculum, and how that balance can be redefined and renegotiated in future.

- What is the role of the basic sciences and are they adequately represented in all years of the medical course?
- Are the 'new' basic sciences adequately covered, eg molecular biology?
- Should the basic sciences include behavioural and social sciences and humanities?
- How should the basic science coverage be divided between undergraduate and postgraduate (specialist) training?

#### 10. Links between stages in medical education and training

**Ms Dana Stanko, Australian Medical Students' Association and Professor Michael Hensley, Newcastle University**

Review the linkages between undergraduate and other stages of medical education.

- Who is responsible for training at each level?
- What linkages exist between training and organisations responsible for training?
- Where are the disjunctions between stages?

#### 11. Recruitment and training of medical academics

**Professor Judy Searle, Griffith University**

Review how quality medical academics are recruited and trained. Identify gaps in incentives for medical professionals to consider academic positions.

- Are there shortages and in what areas?
- How do you attract staff in areas where financial rewards outside universities are very high?
- Can posts be shared between medical schools?
- What is the nexus between research and education in the academic setting and how can it be used to enhance recruitment of staff to academic posts responsible for medical training?

#### 12. Medical education and Australian health priorities

**Professor Richard Hays, James Cook University**

Examine how changing health priorities, in both clinical and policy settings, are reflected in undergraduate medical education and career pathways, with particular reference to Indigenous health issues and rural/remote settings.

- What is the role of medical education in addressing health priorities?
- What evidence is there of an impact of training in these areas on career choice, or service delivery?
- How can medical education remain responsive to differing community needs and demands?
- What can the contexts of Indigenous and rural health teach us in drawing out the principles of better medical education training and practice for all?

## Appendix 2 List of Delegates

### Medical Schools

#### Adelaide University

Ms Clare Frauenfelder  
Dr Nicky Hudson  
Dr Jonathan Newbury  
Dr Anne Tonkin  
Prof Ian Wilson

#### Auckland University

Ms Aimee Greenfield  
Prof Iain Martin

#### Australian National University

Prof Paul Gatenby  
Dr Rosemary Martin  
Prof Cathy Owen  
Mr Scott Sypek  
Dr Ashley Watson  
Mr Robert Wells

#### Bond University

Prof Chris Del Mar  
Ms Naomi Dwyer  
Prof Debra Henly  
Dr Kate Johnston  
Prof David Price

#### Fiji School of Medicine

Prof Sitaleki Finau  
Dr Bimal Roy Krishna  
Dr Eddie McCaig  
Dr Apenisa Tolevu Ratu

#### Flinders University

Dr Ann Kupa  
Dr Tim Neild  
Prof David Prideaux  
Ms Zoe Wainer  
Prof Lindon Wing

#### Griffith University

Dr Heather Alexander  
Dr Simon Broadley  
Prof Judy Searle  
Ms Rachel Wyndham

#### James Cook University

Prof Richard Hays  
Ms Pamela Stronach  
Ms Jan Veitch  
Prof Ian Wronski

#### Monash University

Prof Edward Byrne  
Prof Ben Canny  
Prof Richard Doherty  
Mr Timothy Duncan  
Ms Robyn Hill  
Prof Brian Jolly

#### University of British Columbia

Dr Angela Towle

#### University of Melbourne

Prof James Angus  
Ms Megha Singh

#### University of New South Wales

Mr Tristan Hardy  
Dr Peter Harris  
Dr Philip Jones  
Prof Patrick McNeil

#### University of Newcastle

Prof Michael Hensley  
Dr Patricia McGettigan  
Ms Monique McLeod  
Prof Balakrishnan Nair

#### University of Otago

Dr John Adams  
Prof John Bushnell  
Prof Linda Holloway  
Ms Joy Rebecca Rudland  
Mr Xaviour Walker  
Prof Tim Wilkinson

#### University Of Queensland

Prof Peter Brooks  
Prof Ken Donald  
Dr Michele Groves  
Ms Elizabeth Hodge  
Prof David Wilkinson

**University of Sydney**

Ms Andrea Avolio  
Dr Emily Hibbert  
Dr Chris Roberts  
Prof Merrilyn Walton  
Dr Simon Willcock

**University of Tasmania**

Prof Allan Carmichael  
(Jointly representing CDHS)  
Prof Geraldine Mac Carrick  
Ms Caroline Mooney  
Prof Peter Stanton

**University of Western Australia**

Prof Fiona Lake  
Prof Ian Puddey  
Mr Michael Winlo

**University of Western Sydney**

Mr Tim Wills  
Prof Neville Yeomans

**University of Wollongong**

Prof John Hogg  
Prof Don Iverson

**Specialist Medical Colleges**

**Australian and New Zealand College of Anaesthetists**

Dr Russell Jones  
Mrs Joan Sheales

**Royal College of Pathologists of Australia**

Prof Denis Wakefield  
Dr Tamsin Waterhouse

**The Australasian College for Emergency Medicine**

Dr Wayne Hazell  
Dr Andrew Singer

**The Australasian College of Dermatologists**

Prof Rod Sinclair

**The Royal Australasian College of Physicians**

Prof Desmond Gorman  
Prof Rick McLean  
Prof John Olver  
Dr Craig Patterson  
Dr James Ross  
Ms Peggy Sanders  
Dr Jill Sewell  
Dr David Thomas

**The Royal Australasian College of Surgeons**

Prof John Collins

**The Royal Australian and New Zealand College of Obstetricians & Gynaecologists**

Mr George Douvos  
Dr Peter White

**The Royal Australian & New Zealand College of Psychiatrists**

Prof John Condon

**The Royal Australian and New Zealand College of Radiologists**

Ms Joan Burns

**Stakeholder Organisations**

**Australian Council for Safety and Quality in Health Care**

Prof Bruce Barraclough  
Dr Tim Shaw

**Australian Health Workforce Officials' Committee**

Mr John Ramsay  
Ms Helen Townley

**Australian Indigenous Doctors Association**

Dr Tamara Mackean  
Dr Helen Milroy  
Ms Deanne Minniecon

**Australian Medical Council**

Prof Michael Field  
Dr Joanna Flynn  
Mr Ian Frank  
Prof Mark Harris  
A/Prof Richmond Jeremy  
Dr Trevor Lockyer  
Prof Richard Smallwood  
Ms Theanne Walters

**Australian Medical Students Association**

Ms Dana Stanko

**Australian Medical Workforce Advisory Committee**

Ms Justine Curnow  
Dr Jeannette Young

**Australian Private Hospitals Association**

Mr John Amery  
(Jointly representing PHAQ)

**Australian Rural Health Education Network ARHEN**

Prof Barry McGrath  
(Jointly representing CPMEC)

**Committee of Deans of Australian Medical Schools**

Ms Danielle Brown  
Ms Cathy Budden  
Ms Baldeep Kaur  
Mr Gregory Phillips

**Committee of Presidents of Medical Colleges**

Dr Andrew Child

**Confederation of Postgraduate Medical Education Councils**

Prof Geoffrey Dahlenburg  
Ms Karen Grace  
Prof Barry McGrath  
(Jointly representing ARHEN)  
Dr Peter Roeser

**Consumers' Health Forum of Australia**

Ms Helen Hopkins  
Mr Russell McGowan

**Council of Deans and Health Sciences**

Prof Allan Carmichael  
(Jointly representing University of Tasmania)

**Council of Doctors in Training AMA**

Dr David Hewett  
Mr Warwick Hough

**Department of Education Science and Training**

Dr Richard Chadwick  
Ms Shane Samuelson  
Mr Mark Warburton

**Department of Health and Ageing**

Ms Katy Balmaks  
Ms Yael Cass  
Ms Ellen Delaney  
Prof John Horvath  
Ms Alison Killen  
Mr Brett Lennon  
Ms Ruth Travis

**Federation of Rural Australian Medical Educators**

A/Prof Amanda Barnard  
Prof Dawn DeWitt  
Prof Geoff Solarsh  
Prof Judith Walker  
Prof Paul Worley

**General Practice Education and Training**

Dr Bill Coote  
Ms Margaret MacDonald

**Leaders in Indigenous Medical Education and Training**

Mr Shaun Ewen  
Dr Lisa Jackson Pulver

**Medical Training & Education Council of NSW**

Dr Tessa Ho  
Mr Evan Rawstron  
Ms Tina Renshaw-Taberner

**New Zealand Medical Students Association**

Mr Jesse Gale

**Private Hospitals Association Queensland**

Mr John Amery  
(Jointly representing APHA)

**Postgraduate Medical Council of Victoria**

Dr Stefan Kane

**Postgraduate Medical Council of Western Australia**

Prof Louis Landau

**State and Territory Health Departments**

**Government of South Australia**

Dr Dianne Barrington

**Government of Tasmania**

Prof John Ramsay  
(Jointly representing AHCW)

**Government of Western Australia**

Ms Lucelle Veneros

**NSW Health**

Ms Deborah Hyland  
Prof Katherine McGrath  
Dr Denise Robinson

**Southern Health Victoria**

Dr Brendan Flanagan  
Dr Phillip Rosengarten

**QE Mater Hospital**

Dr Vivienne O'Connor

**Queensland Health**

Dr Suzanne Huxley

**Media**

**Biotext**

Dr Hilary Cadman  
Dr Malini Devadas  
Ms Fiona Mackinnon  
Dr Janet Salisbury

**The Medical Journal of Australia**

Dr Martin Van Der Weyden

## Appendix 3 Abstracts of keynote speeches

### Professor John Horvath, Chief Medical Officer, Department of Health and Ageing

#### The relationship between policy, pedagogy, and practice in Australian medical education

A paradigm shift has occurred in the past few decades to approaches in the development of medical education and training policy, pedagogical delivery in medical schools, and the impact of such policy on enhancing health outcomes for the community. As a result of changing patterns of service delivery, the medical profession must be increasingly aware of maintaining the relevancy of education and training. In order to produce optimal outcomes for the future, policy, pedagogy and practice in Australian medical education must be aligned.

This presentation will explore some of the key events that have shaped the Australian Government's medical education and training policy. Notably, the 1988 Doherty Report (*Australian Medical Education and Medical Workforce into the 21st Century*) provided one of the first instances where the relationship between medical education, workforce need and funding requirements was closely scrutinised. This report provided impetus for medical schools to review their curricula and approaches to student selection.

Since then, the Australian Government has introduced various policies on this matter, from those which have sought to shape the medical workforce population, to those which have explored reforms to the practice of Australian medical education itself. This work has revealed that changing patterns of disease and service delivery settings in Australia require reforms to current systems and models of medical education in order to improve patient care.

Australia's challenge for the future is to achieve an education and training model that produces an appropriately skilled and experienced medical workforce. Importantly, this model must effectively meet the needs of the community by providing appropriate service delivery whilst still maintaining scientific rigour in training. It is essential that we view education and training as the foundation upon which doctors can develop as they proceed through their career. In this sense, medical education is an ongoing process that must adapt to the profession's constantly changing dynamics with respect to technology, patient needs, and service delivery.

**Dr Angela Towle, Associate Dean, MD Undergraduate Curriculum, Faculty of Medicine, University of British Columbia, Canada**

**Medical education and reform: the Canadian experience**

A road map for renewal and reform of Canada's health care system has been provided by two recent major reports. Physician shortages, especially in rural and remote areas, are among the problems highlighted. The response has been to increase medical school enrolment across the country and, in some provinces, to develop new models of medical education designed to encourage graduates to practise in rural and northern areas. Another imperative for reform has been the adoption of the World Health Organization's social accountability framework by the Association of Faculties of Medicine of Canada as the unifying vision for academic medicine in the country. Its impact on the future of medical education is as yet unclear. A third influence is the call for reform in medical education emanating from the USA. This is based primarily on concerns about the current quality of health care and the need for health professionals to respond to future health care needs. The recommendations are likely to impact Canadian schools if only through the joint accreditation process for undergraduate education.

At the University of British Columbia we are engaged in a response to these imperatives. We are embarked on a complex and innovative process to expand and distribute our undergraduate and postgraduate programs in order to meet the health care needs of the province of British Columbia. Begun five years ago, it will be at least another five before the first graduates of our new program are in practice and market testing of our prototype can begin. It is a unique collaborative model involving the provincial government, three universities and six health authorities. To turn this vision into reality we are following a systematic and staged approach to partnership development, integrated planning, piloting, implementation and evaluation. I believe the lessons learned have general applicability.



## Mr Bob Wells, Director, Policy and Planning (Health), Australian National University

### Medical education: implementing the vision

Medical education encompasses the university, postgraduate, vocational and lifelong learning experiences of doctors. Its future directions will be determined largely by the users and operators of the health systems in which doctors will work.

There are many environmental factors, including:

- the increasing scarcity of health workforce
- the effects of microeconomic reforms (eg National Competition Policy) and international trade agreements (eg US/Australia Free Trade Agreement) on what health care is available and who may provide it
- the economic climate and 'intergenerational' issues which might affect how much health care we can afford
- changing expectations of doctors' roles, particularly as part of multidisciplinary health care teams, eg should university training for all health professions be more integrated so that team working is embedded from the start?
- changes in medical teaching and practice resulting from new technologies, eg 'simulation' centres and remote patient monitoring.

The implications for medical educators are that they cannot expect to set their goals or plan their programs in isolation or on the basis of academic, 'objective' criteria. Medical educators need to make sure that they are producing a 'product' which the market wants. Consumers are increasingly accessing services from nonmedical providers, including 'alternative' or 'complementary' therapists — and paying for these services out of their own pockets.

The creation of a 'market' in medical school places will result in pressures from the student end. Will a newly graduated MBBS carrying a debt in excess of \$100,000 be satisfied with the realisation that that investment is in fact only a down payment and that he or she faces another 5–10 years training before reaching full earning potential?

There will be continuing pressures from the community to add yet more core modules to medical curricula around social, ethical and legal issues. How can medical educators respond sensibly to these pressures?

Whatever education models are proposed, society will ask questions like: Can we continue with medical education which takes 10–15 years to produce fully qualified specialists or general practitioners? Does society get value from the university sector which spends the first 5–7 of those years to produce a 'generic' medical graduate who then needs many more years training to become a functional doctor? Why cannot doctors build up competencies as they progress? Will our medical graduates be attuned to the realities of health care provided in a variety of settings by a range of professionals?

These questions cannot be answered by the university sector alone — but universities might be expected to provide leadership in finding the answers.

## Appendix 4 Biographies of panel speakers

### Professor Peter Brooks

Professor Peter Brooks is currently Executive Dean of Health Sciences at the University of Queensland. He has held previous posts as Professor of Medicine at St Vincent's Hospital, Sydney (University of New South Wales) and was the Foundation Professor of Rheumatology at the Royal North Shore Hospital and the University of Sydney. He completed his medical training at Monash University in Melbourne and then studied rheumatology under Professor Watson Buchanan in Glasgow.

Professor Brooks is a rheumatologist with a major research interest in the treatment and epidemiology of rheumatic diseases. He is a recognised international expert in this area. He has a major interest in medical research, in particular, the linking of basic and clinical research and in internationalisation and the development of postgraduate activities. He has published widely in the treatment and outcomes in arthritis and in psychological aspects of rheumatic diseases and medical education.

Professor Brooks sits on a number of boards, including the Council of the Queensland Institute for Medical Research; Advisory Committee (arthritis and musculoskeletal disease) to the National Health Priority Action Council; Mater Medical Research Institute; Board of the Centre of National Research on Disability and Rehabilitation Medicine; Executive Committee of the International League of Associations for Rheumatology; and the Partnerships Grants Committee of the NHMRC.

### Professor Andrew Child

Dr Andrew Child is an obstetrician working at Royal Prince Alfred Hospital in Sydney and is presently the Area Health Service Director for Women's and Children's Health. He has recently completed two years as President of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists and has been involved in college activities over the past 20 years, including training and accreditation, examinations and continuing professional development.

Dr Child is the present Chairman of the Committee of Presidents of the Medical Colleges and serves on a number of federal and state government committees covering a wide range of general medical interests.

### Dr Angela Towle

Dr Angela Towle was appointed Associate Dean, MD Undergraduate Curriculum in the Faculty of Medicine, University of British Columbia, Canada in August 2002. She is responsible for managing the medical curriculum and has taken a lead in implementing a major expansion of the medical school which, by 2005, will almost double the entering class size. The expansion is being done in partnership with the University of Victoria, the University of Northern British Columbia and the six provincial health authorities, and is supported financially by the provincial ministries of health and advanced education. The expansion is designed to address physician shortages in the province and difficulties in recruiting and retaining physicians in rural and remote areas. Dr Towle has 16 years experience of medical education research, curriculum and faculty development, and curriculum management and change at UBC (formerly as Director of the MD Undergraduate Program) and at various medical schools in the UK. She was for five years based at the King's Fund Centre for Health Service Development in London, where her work focused on the interface between medical education

and health care delivery. Her experience of change in medical education has been at the conceptual and strategic level as well as at the coalface of implementation. In her spare time she is Co-Director of the Division of Healthcare Communication in the College of Health Disciplines at UBC, which has a research and development focus on patient/client involvement in health care decision making.

### Dr Joanna Flynn

Appointed to the Medical Practitioners Board of Victoria in 1989, Dr Flynn became the state's first female president of the board in July 2000. She became the board's nominee on the Australian Medical Council in 2001. Dr Flynn has been the President of the Australian Medical Council since November 2003. Membership of AMC committees has included the Medical School Accreditation Committee and AMC accreditation teams reviewing both basic medical courses and specialist medical training programs.

A general practitioner with extensive rural and urban experience, Dr Flynn works in general practice in West Brunswick. She is also an experienced medical educator and was, for eight years, the Director of the Royal Australian College of General Practitioners' Training Program in Victoria.

### Dr Stefan Kane

Dr Kane commenced at the University of Melbourne Medical School in 1997 on a 'Melbourne Scholar' scholarship. Over the following seven years, he acquired the degrees of MBBS, BA and BMedSc. He was elected President of the University of Melbourne Medical Students' Society in 1999, Vice-President of the Australian Medical Students' Association in 2000, and President in 2001. These roles entailed representation on numerous committees, including the Federal Council of the AMA and the Medical Training Review Panel. Dr Kane was a member of the Australian Medical Council Medical School Accreditation Committee from 2001 to 2004, including participation in the working party to review accreditation standards, and the accreditation visit to the University of Notre Dame Australia (2004). He is currently a member of the Accreditation Subcommittee of the Postgraduate Medical Council of Victoria, and undertaking a joint residency at the Royal Melbourne and Royal Children's Hospitals, having completed internship at the former last year.

### Mr Brett Lennon

Brett Lennon is Assistant Secretary of the Health Workforce Branch in the Department of Health and Ageing.

In that role, he is responsible for issues involving national health workforce policy and for a number of medical, nursing and allied health workforce programs. Prior to his current appointment, Brett oversaw the Pharmaceutical Benefits Scheme.

Brett holds a Bachelor of Economics (honours) degree from the University of Sydney. He has worked in the Australian Public Service for 35 years. For most of that time he has been employed in central agencies, and has experience in a variety of areas in the Department of the Treasury, the Department of Finance and the Australian Taxation Office.

### Professor Katherine McGrath

Originally trained as a haematologist, Katherine worked as an active clinician, academic, laboratory director and Divisional Chair at the Alfred and Royal Melbourne Hospitals in Victoria until 1995.

She moved to the Hunter in 1995 initially as Director, Hunter Area Pathology Service, and later as the Chief Executive Officer, as well as honorary Professor of Pathology, in 1997.

During her appointment, Hunter Health enhanced its reputation as a highly innovative health service both through its own initiatives and through partnerships with organisations such as the Hunter Urban Division of General Practice. Those partnerships have led to the development of new models of care such as transitional care for the aged and after hours GP access in emergency departments.

In March 2004, Katherine commenced in the position of Deputy Director General, Health System Performance, with the NSW Department of Health, which includes responsibility for performance improvement, quality and safety, information management and technology, as well as private hospital regulation.

### Dr Helen Milroy

Helen Milroy is a descendant of the Palyku people of the Pilbara region of Western Australia but was born and educated in Perth. She studied medicine at the University of Western Australia, graduating in 1983. Helen worked as a general practitioner and consultant in childhood sexual abuse at Princess Margaret Hospital for children for several years before completing specialist training in psychiatry, qualifying as a consultant child and adolescent psychiatrist in 2000. Helen is a member of the Royal Australian and New Zealand College of Psychiatry Committee for Aboriginal and Torres Strait Islander Mental Health. At present, Helen works as a consultant child and adolescent psychiatrist at the Bentley Family Clinic and Families At Work residential program. Helen is also an Associate Professor and Director for the Centre for Aboriginal Medical and Dental Health at the University of Western Australia as part of the Faculty of Medicine and Dentistry. In 2002, Helen joined the staff as a research fellow at the Telethon Institute for Child Health Research to assist in the analysis and writing of the Western Australian Aboriginal Child Health Survey. As current President of the Australian Indigenous Doctors Association she looks forward to increasing the number of Indigenous medical graduates and providing support and mentoring to students and graduates as they pursue their careers in health.

### Professor David Prideaux

David Prideaux is Professor and Head of the Department of Medical Education at Flinders University and Professor of Medical Education at Griffith University. He is an educator by background, with expertise in curriculum development and evaluation. His roles include curriculum design and evaluation and staff development at the two medical schools. He has undertaken consultancies in the development and change of medical school programs nationally and internationally. Professor Prideaux's research interests include decision-making models for change and innovation in medical education and the career and workforce outcomes of medical school programs. He has published widely his field of study and is a deputy editor of the international journal, *Medical Education*. He is the holder of the 2004 Australian and New Zealand Association for Medical Education Award for excellence in medical education.

### Ms Dana Stanko

Dana Stanko, the 2005 Australian Medical Students Association Vice-President, is in her final year of medical studies at the University of Western Australia. This year, in her capacity as Vice-President of the AMSA, she will be focusing heavily on medical education in Australia. Problem-based learning, new medical schools and rural clinical schools are just a few of the aspects of medical education under scrutiny.

In 2004, she was Vice-President of the Western Australian Medical Students Society and was one of the founding members of the WAMSS student-led 'Teaching on the Run' program, which provides teaching training for clinical year students and brings much-desired clinical exposure to preclinical students.

### Mr Bob Wells

Bob Wells is Director, Policy and Planning for Health, at the Australian National University, Canberra. He has a broad role to work across the ANU in the areas of health research and policy analysis.

Bob managed the Commonwealth's health workforce programs from the early 1990s until he left the Department of Health and Ageing in June 2004. He chaired the Medical Training Review Panel and represented the Commonwealth on bodies such as the Australian Medical Workforce Advisory Committee (AMWAC), the Australian Health Workforce Officials Committee and the Australian Medical Council. He also chaired a number of workforce committees established under the auspices of the Australian Health Ministers Council, including working parties on national medical registration and specialist medical training. He oversaw the implementation of major Commonwealth workforce initiatives including the provider number arrangements, the establishment of a national network of rural clinical schools, establishment of national arrangements for prevocational medical training, reforms to specialist training arrangements and assessment of international medical graduates. He has represented Australia internationally on medical workforce matters.

### Professor Lindon Wing

Professor Wing has been Dean of the School of Medicine at Flinders University since April 1998. He is a medical graduate from the University of Sydney who did his postgraduate training in Sydney at the Royal Prince Alfred Hospital and the University of Sydney and then in the United Kingdom at the University of Oxford and at the Royal Postgraduate Medical School in London. He joined the staff of the School of Medicine at Flinders in 1976. His initial appointment was as a lecturer in clinical pharmacology but he subsequently moved to be a staff specialist in clinical pharmacology at the Flinders Medical Centre with full academic status at Flinders University. He was promoted to full professorial status in 1992. He has a longstanding involvement in medical education through the Flinders University medical course and postgraduate physician training. His research and clinical interests have predominantly related to appropriate use of pharmaceuticals and to the treatment of hypertension. He has led national projects such as the Australian Medicines Handbook and the Second Australian National Blood Pressure Study. He has had a number of national leadership roles in professional organisations and on major national committees. More recently he has been a member of the Australian Medical Council and both its Examination and Medical School Accreditation committees. He has been a member of the Flinders University Council for the past six years. He is the current chair of the Committee of Deans of Australian Medical Schools.

### Dr Jeanette Young

Dr Jeannette Young is the Chair of the Australian Medical Workforce Advisory Committee, which provides advice to government on Australian medical workforce planning and policy. She is also a member of the Australian Medical Council and sits on a number of workforce policy committees. Her other major area of interest is in organ and tissue donation and transplantation and she is the eastern states nominee on Australians Donate, a body responsible for advising on issues related to organ and tissue donation.

Dr Young is the Executive Director of Medical Services at the Princess Alexandra Hospital, one of the major tertiary teaching hospitals in Brisbane. In this role she is responsible for managing medical staff professional and operational issues across the organisation.

## Appendix 5 Conference Steering Committee members

**Professor David Prideaux, Convenor**  
Flinders University of South Australia

**Professor Brian Jolly**  
Monash University

**Professor Fiona Lake**  
University of Western Australia

**Professor Richard Hays**  
James Cook University

**Ms Dana Stanko**  
Australian Medical Students' Association (2005)

**Dr Simon Willcock**  
University of Sydney

**Professor Richmond Jeremy**  
Australian Medical Council

**Ms Theanne Walters**  
Australian Medical Council

**Ms Danielle Brown**  
CDAMS Executive Officer

**Ms Cathy Budden**  
CDAMS Project Manager

The Steering Committee also wishes to thank the following former members of the committee:

**Professor Nick Saunders**  
Newcastle University

**Mr Matthew Holman**  
Australian Medical Students' Association (2002 and 2003)

**Mr Matthew Hutchison**  
Australian Medical Students' Association (2004)





