Background Note Index

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Medical practitioners: education and training in Australia

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Contents

Introduction

Medical practitioners - general practitioners and other medical specialists, hospital non-specialis and specialists-in-training - are a fundamental and vital component of the health workforce. Me practitioners diagnose physical and mental illnesses, disorders and injuries, provide medical car patients and prescribe and perform medical and surgical treatments to promote and restore goc health.[1]

In 2006, there were an estimated 71 740 medical practitioners registered in Australia, and mos these were working in medicine throughout the country.[2] The overall supply of employed mec practitioners in Australia increased in the period from 2002 to 2006. During the same time, however, the supply of general practitioners decreased.[3]

The overall number of medical practitioners in Australia in 2006 was less than the number of practising doctors in most Organisation for Economic Co-operation and Development (OECD)

countries, but more than the numbers of doctors practising in comparable countries such as Canada, the United Kingdom and the United States.[4]

Prior to the mid 1990s, it was believed that there were adequate numbers of medical practitione to service the needs of the Australian population. As a consequence, the Australian Governmen placed a cap on the number of university places provided for medical students.[5] In the view o some commentators however, this restriction on places contributed to what was a shortage of general practitioners. In addition, the cap led to shortages at the junior hospital doctor level, in because there were not enough second-year interns to fill these positions in the public hospital system.

By the end of the 1990s, it was claimed that there were not enough fully registered junior docto fill all the training places available in the various specialty programs.[6] Australian Bureau of Statistics (ABS) evidence supported such claims, with figures that indicated between 1986 and the number of general practitioners grew only slightly, and at a lower rate than the population a whole. This resulted in a decline in general practitioner to population ratio. Most of the growth i number of medical practitioners between 1986 and 1991 the ABS attributed to a 48 per cent increase in the number of specialists.[7]

More general questions about whether the supply of doctors was adequate were not raised until late 1990s when shortages in rural and remote areas of Australia became increasingly noticeabl Initially, however, the consensus was that rather than there being actual shortages in the medi workforce, there was a mal distribution between the bush and metropolitan areas. Following its election in 1996, the Howard Government introduced legislation and schemes intended to addre that mal distribution. These initiatives included requiring overseas trained doctors to work in ru and remote areas classified as Districts of Workforce Shortage.[8]

However, despite government initiatives, shortages of doctors persisted in rural and remote are Moreover, evidence began to emerge in the late 1990s and early 2000s that shortages were als commonplace in the outer metropolitan areas of the capital cities. At that time, it was argued th government policy initiatives were simply short term solutions, particularly with reference to ge practitioner shortages; the introduction of medium and long term solutions was crucial to solvin the problem overall. Such solutions, according to one study, included funding more training plac for general practitioners.[9] In March 2003, the Royal Australian College of General Practitioner (RACGP) argued also that not only were there grave shortages of general practitioners in outer metropolitan areas, but other specialties in these areas were in short supply.[10]

The Government responded to these types of concerns by raising a cap on medical student num that had been announced by the Labor Government in 1995 and introduced by the Coalition in 1996. Under the cap, the number of medical school places had been restricted to approximately 1250 per year.[11] From 2003 until its defeat in 2007, however, the Howard Government appro a number of increases in student places.[12] Since its election in November 2007, the Rudd Government has also committed to increasing the numbers of medical school places as well as clinical training places.

Overall, the number of Commonwealth supported commencing places in medical courses in universities across Australia rose from 1403 in 2003 to an estimated 2544 in 2008. This is expe to rise further to reach around 2600 by 2012.[13] But the results of this change in policy directi will take a number of years to come to fruition, as medical education is a long and complex proc which involves many years of study and the input of many players.

This background note summarises that process, elaborating upon the roles played by the major providers of medical education in Australia and the pathways taken by students to qualify as medical practitioners. In so doing, the paper illustrates the need for a long term planning appro to medical practitioner supply. This has often not been the case in Australia. Instead, as noted earlier in this section, there have been particular moments where the numbers of medical practitioners have been assessed as either too few or too many to meet the needs of the popul Following from these perceptions, the policy response has been either to restrict or increase me student numbers. However, such reactions have sometimes had unintended consequences, suc compounding the underlying shortages of practitioners. This has been to the detriment both of patients and practitioners as patients in some areas are unable to access an adequate array of

medical services. For medical students this type of approach has also meant that at times there insufficient places available in medical schools for all those who wish to study medicine. Understanding better how the transformation from student to 'specialist' medical practitioner w and the roles of those institutions which contribute to, and influence that transformation may h to lessen the possibility that these types of negative outcomes unnecessarily beleaguer the hea system.

Key medical education players

As the Productivity Commission noted in 2005, responsibility for the funding and delivery of education and training for Australia's health workforce generally is complex and broadly shared. particularly so for medical practitioners, with institutions including the Australian and state and territory governments, universities, specialist colleges and other agencies providing various lev input.[14]

The Australian Government is principally responsible for policy relating to, and the funding of th university education of medical students. As such, it determines the number of university place available each year for medicine. Part of its commitment to medical student education involves provision of clinical training component funding to universities, which in turn contract with teac hospitals for the use of facilities for training purposes.[15] The federal government is also responsible for the funding of the Australian General Practice Training Program which provides vocational training for general practitioners (this program is discussed later in this paper).

State and territory governments manage and jointly fund with the Australian Government the p hospitals which provide the bulk of pre vocational and vocational training for medical students. state and territory contribution to medical education delivers the important components of hosp infrastructure and on-the-job staff trainers in hospital environments.

Health sector organisations which play key roles in the education and training of medical practitioners include:

- Australian Medical Council (AMC). This independent national standards body for medical education and training accredits the university medical schools and specialist colleges tha deliver medical education and training. It also provides advice to governments, medical education providers and medical boards on a range of issues.[16]
- Specialist medical colleges. The specialist colleges (not including the Royal Australian Coll of General Practitioners, see the point below relating to this college), in consultation with other relevant bodies, are responsible for determining standards of education and training required for qualification in particular specialties. These colleges also determine the numb of training places they will provide
- Royal Australian College of General Practitioners (RACGP). This College supports general practitioners, registrars and medical students by assessing doctors' skills and knowledge, monitoring professional development activities, developing resources and guidelines and assisting generally with issues that affect practice and accreditation processes. Unlike the other colleges, the RACGP does not provide fellowship training. This is delivered by a government-run organisation, General Practice and Education Training Limited (GPET).[1
- Private hospitals also provide and fund a small amount of training to postgraduate medica students.[18]
- Postgraduate medical councils in the states and the Northern Territory support and develo education and training requirements for junior doctors and hospital medical officers in the prevocational years.[19]

Box 1 below provides information on the Australian Medical Council, which has traditionally play vital role in ensuring that the standards of medical education in Australia remain high.

Box 1: medical school accreditation

The Australian Medical Council (AMC) currently makes recommendations on the accreditation of Australian medical schools to state and territory medical registration boards (see discussion of impending changes to registration processes in Box 2). The fundamental aim of this process is t

ensure that Australian medical school programs meet nationally agreed guidelines for basic mec education. An added aim of the accreditation process is to ensure that graduates of Australian medical schools are competent to practise as interns under supervision and that they have acqu the adequate knowledge and sufficient competency to undertake further vocational training.

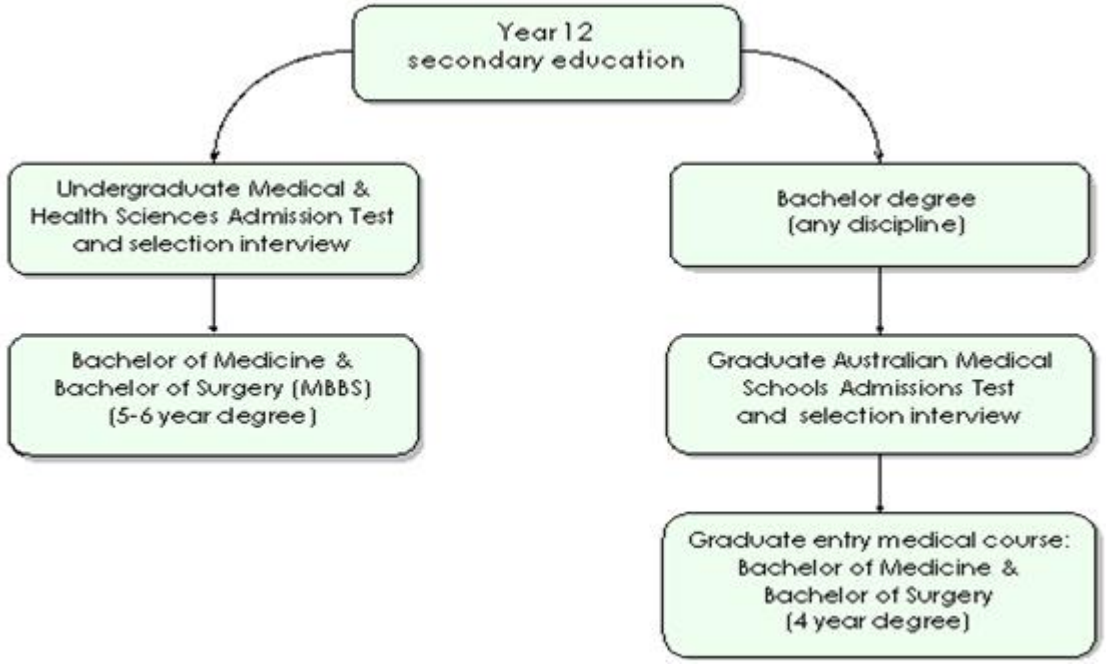
The AMC's accreditation committee comprises nominees of the various medical schools, the Australian Medical Students' Association, specialist medical colleges, postgraduate medical coun the Medical Council of New Zealand, the Australian Medical Council and health consumers.

Accreditation of medical schools can be for a period of up to ten years, during which time the schools must submit reports in the second, fifth and seventh years. Schools which make change their curriculum during an accreditation period must submit more frequent reports.[20]

Gaining a medical degree

In Australia, there are two pathways to a medical degree - undergraduate and graduate. The fir option is mainly taken by secondary school leavers and generally involves a five to six year cou entry to which is based on matriculation results, an admission test and an interview. The secon option, graduate entry, requires students to have completed a bachelor degree of any type. Ent the graduate degree also involves an admission test and interview. Both options are shown in t table below and are discussed in more detail in the following sections.

Table 1: pathways to medical school



Source: AMA[21]

Undergraduate medical degree

Selection

Ten of Australia's 18 university medical schools offer undergraduate degrees. T are five or six years in duration, with the exception of the Bond University deg which is four years and eight months (see Table 3 below).

Traditionally, entry into medical school was based on final high school year results. In the 1990s, however, it was felt that this single selection criterion did not take into consideration ce vital qualities people needed to be able to study and practice medicine. These qualities were

as including: critical thinking and problem solving, an ability to understand people and abstract verbal reasoning. Consequently, a number of Australian university medical schools form Consortium to commission the Australian Council of Educational Research (ACER) to desigr Undergraduate Medical and Health Sciences Admission Test (UMAT).[22] This test is now us assess students for admission to medical study.[23]

While the Consortium universities use UMAT as part of their entry assessment, each univ determines an individual 'cut off' score for student acceptance. Additionally, most univer interview candidates as part of their individual selection processes. [24]

Problem based learning

Undergraduate degrees in medicine adopt a problem based learning approach in years one to of study. This approach is expanded upon in the latter years of the degrees as students un placements in teaching hospitals and in the community.

Problem based learning has been described as 'an instructional strategy in which students confr contextualized, ill-structured problems and strive to find meaningful solutions'.[25] This metho learning was first introduced into the study of medicine in Canada in the 1960s after it was note that medical students 'were bored and disenchanted when medical education should have been exciting'.[26] Consequently, medical faculty educators decided that from its onset, learning for medical students 'would occur around a series of biomedical problems presented in small group with the faculty functioning as "tutors or guides of education."'[27]

Problem based learning was introduced in Australian medical schools following the publication o Karmel Report in 1973.[28] This report concluded that 'Australian medical school curricula were science-oriented, not innovative and neglected primary care'.[29]

There are, however, arguments for and against the concept of problem based learning and thes are summarised in the table below.

Table 2: advantages and disadvantages of problem based learning

Advantages of PBL	Disadvantages of PBL
Student centred PBL - It fosters active learning, improved understanding, and retention and development of lifelong learning skills	***Tutors who can't "teach"*** - Tutors enjoy passing on their own knowledge and understanding so may find PBL facilitation difficult and frustrating.
Generic competencies - PBL allows students to develop generic skills and attitudes desirable in their future practice.	***Human resources*** - More staff have to take part in the tutoring process.
Integration - PBL facilitates an integrated core curriculum.	***Other resources*** - Large numbers of students need access to the same library and computer resources simultaneously.
Motivation - PBL is fun for students and tutors, and the process requires all students to be engaged in the learning process.	***Role models*** - Students may be deprived access to a particular inspirational teacher who in a traditional curriculum would deliver lectures to a large group.
"Deep" learning - PBL fosters deep learning (students interact with learning materials, relate concepts to everyday activities, and improve their understanding).	***Information overload*** - Students may be unsure how much self directed study to do and what information is relevant and useful.
Constructivist approach - Students activate prior knowledge and build on existing conceptual knowledge frameworks.	

Source: British Medical Journal[30]

Graduate medical degree

Selection

An increasing number of university medical schools in Australia have begun to offer graduate medical degrees. Applicants for these medical degrees need to hold a bachelor's degree. They n also to pass the Graduate Australian Medical School Admission Test (GAMSAT). Like the UMAT, assessment was developed by ACER in conjunction with the Consortium of Graduate Medical Schools. GAMSAT is divided into three sections: written communication, reasoning in the humar and social sciences and reasoning in the biological and physical sciences. While applicants do nc need a science degree to sit the test, information provided by GAMSAT notes that success in the assessment, which is held annually in March, 'is unlikely without knowledge and ability in the biological and physical sciences, however this [knowledge and ability] is acquired'.[31]

If applicants are successful in the GAMSAT their applications are sent to the relevant univer which use various internal assessment processes to choose candidates for the interview pha assessment.

The following table lists the universities which offer undergraduate and graduate degree courses

Table 3: medical degrees and course duration

School Leaver Entry#	Course Duration (Years)	Graduate Entry	Course Duration (Years)
Adelaide	6	ANU	4
Bond*	4.6	Deakin	4
James Cook	6	Flinders	4
Melbourne**	6	Griffith	4
Monash	5	Melbourne	4.5
Newcastle/UNE^	5	Monash – Gippsland	4
UNSW	6	Notre Dame Sydney	4
Tasmania	5	Notre Dame WA	4
UWA	6	Queensland	4
Western Sydney	5	Sydney	4
		UWA	4.5
		Wollongong	4

 # Most school leaver-entry programs take students who may have an undergraduate degree
** Bond University operates a three-term year with medical students commencing in second semester (May)*
*** Melbourne will change to a graduate entry only course from 2011*
^ Joint Medical Program (JMP) with University of New England from 2008

So

Medical Deans Australia and New Zealand[32]

Each university has a quota for its annual intake of graduate students. The quota includes Commonwealth supported places, bonded places and full fee paying places. The following table shows the 2008 GAMSAT estimate of the number of places available for graduates for 2009.

Table 4: GAMSAT estimated quota of university places for graduate medical stude 2009

School places	CSP	MRBS CSP	BMP CSP	Full-fee paying	Tot
ANU	57	3	20		8
Deakin	85	5	30	8	12
Flinders	71	4	25	20§	12
Griffith	121*	4	25	-	15
Melbourne	50#	3	17	5	7

Monash	33	2	5	10	5
Notre Dame Fremantle	73	3	24	-	10
Notre Dame Sydney	57	3	20	32	11
Queensland	234	11	68	30	34
Sydney	144∞	8	51	25	22
UWA	----------60----------			-	6
Wollongong	----------72----------			-	7

§ includes 5 SA Government sponsored bonded places

* includes 50 Queensland Health bonded places

includes 10 Extended Rural Cohort places

∞ includes up to 6 places reserved for combined degrees (ie BSc (Adv)/MBBS, BMedSc/MBBS, BA(Adv)(Hons)/MBBS, BMusStudies/MBBS)

These quotas are subject to change.

Applicants are advised that numbers of full fee-paying places are provisional, and may change depending on implementation of Australian Government policy on domestic fee-paying places.

Source: ACER[33]

Types of medical student places

Full fee paying

It is costly to train a medical student - more costly in some universities than others. The cost of degree at Bond University for example for full fee paying students is approximately $262 559.[3 While eligible full fee paying students for various degrees have been able to gain a FEE-HELP loa help pay their tuition fees, these loans have been limited.[35] In the case of medicine, in 2008 limit was $102 000.[36] After graduation, full fee paying students have had to repay their loan amount calculated by the Australian Tax Office once they earn above a certain income.[37]

In the 2008-09 Budget, however, in keeping with a long-standing Labor policy commitment to phase out full fee paying domestic places at public universities, the Government provided fundir $249 million for this purpose from 2009.[38] Under this program universities will be compensat for the loss of revenue they have gained from fee paying places for all domestic undergraduates through the provision of funding for 11 000 Commonwealth supported university places.[39]

Commonwealth supported places

Most domestic university students in Australia are not full fee paying students, however. Their s is subsidised through the Commonwealth Grants Scheme. Under this scheme, the Australian Government provides funding assistance to universities for an agreed number of Commonwealt supported places (previously known as Higher Education Contribution Scheme or HECS places) various disciplines each year. (See Table 7 at the end of this section which provides a breakdow the numbers of Commonwealth supported places as well as the other types of student places available to medical students).

Students are also expected to pay a financial contribution towards their education. This contribu is set by higher education providers within a limit imposed by the Government. Students can ele to pay their contribution upfront and receive a 20 per cent fee discount as a result. They can ma partial fee payment of an amount over $500 and receive a discount on the amount paid or they defer the whole contribution amount. Students who choose the latter option can apply for a HEC HELP loan.[40] Following graduation, repayment of HECS-HELP loans is required on a scale set the tax office once graduates earn a minimum income ($41 595 in 2008-09).[41]

The following tables show the Australian Government contribution rates for full time students fo medicine compared with other funding cluster disciplines and the ranges of student contribution rates for 2009.

Table 5: Commonwealth contribution amounts for one equivalent full time studen load in 2009

Funding cluster	Commonwealth contribution*
Law, accounting, administration, econornics, commerce	$1,709
Humanities	$4,743
Mathematics*, statistics*, behavioural science, social studies, education*, computing, built environment, other health	$8,389
Clinical psychology, allied health, foreign languages, visual and performing arts	$10,317
Nursing*	$11,517
Engineering, science*, surveying	$14,664
Medicine, dentistry, veterinary science, agriculture	$18,610

Source: DEEWR[42]

Table 6: student contribution bands and ranges 2009

Student contribution band	2009 Student contribution range (per EFTSL)
Band 3 Law, dentistry, medicine, veterinary science, accounting, administration, economics, commerce	$0 - $8,677
Band 2 Computing, built environment, health, engineering, surveying, agriculture	$0 - $7,412
Band 1 Humanities, behavioural science, social studies, foreign languages, visual and performing arts	$0 - $5,201
National priorities Education, nursing Mathematics, statistics and science	$0 - $4,162

Source: DEEWR[43]

Bonded medical school places

Medical students who are Australian citizens or permanent residents are also able to apply for support under the two bonded medical places schemes offered by the Australian Government. Applicants for these schemes need to meet the same entry requirements as other students and selection for all bonded places is undertaken by relevant universities.

The first of these schemes, the Medical Rural Bonded Scholarship Scheme, provides 100 scholarships annually for extra places in medical schools. Scholarship recipients, who must be Australian citizens or permanent residents, receive an annual tax free, non-means tested, index payment for as long as it takes them to complete their medical degrees. In 2009, this scholarsh payment was $23 686. In return for support under this scholarship, students agree to practice i rural or remote areas of Australia for six years continuously upon completion of their medical ar vocational training.

The second scheme, the Bonded Medical Places Scheme, also provides extra university places fo students who wish to study medicine. The number of places available to students per year is se 25 per cent of all students commencing in Commonwealth supported medical places.[44] In ret for the opportunity to study medicine, students commit to work in areas where there are workfo shortages (Districts of Workforce Shortage or DWS) for a period equal to the length of their me degrees. (See Appendix B for information on DWS). There is no direct funding to students unde Bonded Medical Places Scheme and students are required to pay the full student fee contributio unless they choose to train or work in a rural DWS. They may then be eligible for the HECS Reimbursement Scheme. This Scheme reimburses one-fifth of HECS-HELP medical fees for each year of rural training or service.[45]

Other bonded student places

State government places

The South Australian and Queensland State Governments offer bonded scholarships. The South Australian scholarships provide full time undergraduate students with $5000 per year for a maximum for three years. To be eligible for these scholarships, students need to have resided i rural Australia prior to undertaking study in a variety of disciplines, including medicine. They are required to live and work in rural South Australia on completion of their undergraduate degrees a period equivalent to that funded under the scholarships.[46]

In 2008, the Federal Government agreed to reimburse Queensland for the costs associated with training of 235 bonded medical students under the Queensland Health Bonded Medical Scholars Scheme.[47] Queensland Health scholarship holders have their full tuition fees paid to undertak the graduate medical course delivered at Griffith University. They also receive an annual Educat Support Allowance of $21 000 for the duration of the course.[48]

Australian Defence Force scholarships

The Australian Defence Force sponsors an undergraduate scheme which is available to medicine dentistry, nursing, pharmacy, radiology, law, environmental health, engineering, Business or Ar students. Under this scheme, students are paid a salary of $33 750 per year while they study, t student debt is paid and they receive free dental and medical benefits. Upon graduation, they a required to serve as officers, in the service of their choice, for the length of their sponsorships p one year.[49]

See Appendix D for information on other scholarships available to medical students.

The following table shows the number and percentage of medical students by the category of student places for the period 2004 to 2008.

Table 7: number and percentage of medical students by category of student place 2004-08 (headcount)

	2004	2005	2006	2007	2008
		Number			
CSP					
HECS	6,876	6,983	7,144	7,317	7,642
BMPS	226	434	688	1,212	1,747
MRRBSS	382	452	486	488	489
Fee paying					
Domestic	n.a	160	415	678	932
International	1,749	1,919	2,081	2,153	2,309
Other(a)	n.a	n.a	35	101	218
Total	**9,233**	**9,948**	**10,849**	**11,949**	**13,337**
		Percent			
CSP					
HECS	74.5	70.2	65.9	61.2	57.3
BMPS	2.5	4.4	6.3	10.1	13.1
MRRBSS	4.1	4.5	4.5	4.1	3.7
Fee paying					
Domestic	n.a	1.6	3.8	5.7	7.0
International	18.9	19.3	19.2	18.0	17.3
Other(a)	n.a	n.a	0.3	0.9	1.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Other includes medical students on state health department bonded medical scholarship.

Source: Medical Training Review Panel[50]

International student places

International students must meet minimum academic requirements in order to study in Australi They are also required to possess a sufficient level of English language proficiency to gain entry Australian education and training institutions. According to the Department of Education, Employment and Workplace Relations (DEEWR), courses in medicine are available to internatior students at 17 Australian medical schools. It is mandatory for candidates who wish to enter undergraduate medicine courses at Monash University and the Universities of Queensland, Tasmania, Western Sydney and Western Australia to pass the International Student Admissions (ISAT), a three-hour multiple choice test.[51] Other institutions, such as the Australian Nationa University, require international students to have sat GAMSAT or the United States' Medical Coll Admissions Test (MCAT).[52]

In 2006, there were 2081 overseas students studying medicine in Australia.[53]

The majority of international students in Australia are full fee paying students who are not eligit for scholarship assistance.[54] Tuition fees for these students can range from approximately $1 000 to $327 000 for a medical degree.[55]

The following table shows the number of students, both domestic and international, enrolled in medicine at the various medical schools in 2006.

Table 8: total medical students in Australian universities 2006, (domestic and international students headcount)

University	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Flinders [a]	0	0	110	100	109	93	412
UNSW	257	217	203	228	214	200	1319
Tasmania	64	63	94	81	71	73	446
Queensland [a]	0	0	317	293	320	242	1172
Newcastle [b]	0	111	127	96	95	82	511
Adelaide	133	128	131	141	138	128	799
Melbourne [e]	298	293	251	292	270	285	1689
Monash [c]	272	255	224	222	200	8	1181
Sydney [a]	0	0	268	270	255	217	1010
UWA	188	173	221	167	142	131	1022
JCU	99	97	92	75	68	76	507
ANU [d]	0	0	84	93	74	0	251
NDU [a]	0	0	86	79	0	0	165
Griffith [a]	0	0	126	86	0	0	212
Bond [a,e]	0	84	69	0	0	0	153
TOTAL	1311	1421	2403	2223	1956	1535	10849
Number female	728	784	1346	1233	1073	844	6003
% female	55.5	55.2	56.0	55.5	54.9	55.0	55.3
Number International [f]	259	304	474	419	362	263	2081
% International	19.8	21.4	19.7	18.8	18.5	17.1	19.2

a–4 year graduate entry course.

b–5 year course.

c–Monash had no 5th year in 2005 due to transition to five- year program.

d–ANU medical course is in its third year.

e–Bond University figures are based on an undergraduate entry course of 4 .6 years (4 years plus two semesters). Melbourne University's graduate entry program is 4.5 years (four years plus one semester).

f–International students are those studying as private or sponsored students who are not Australian citizens, permanent residents or New Zealand citizens.

Source: Medical Training Review Panel[56]

Clinical experience

Clinical training is an essential part of a medical degree. As the Medical Deans Australia and Ne Zealand note, this training is necessary for students to 'contextualize and further explore the cli problems and systems learned in the classroom and skills labs'.[57] In the initial years of a deg clinical training often occurs in general practice or community settings and may consist only of observation, although in recent times, early clinical training has included experience in clinical s training laboratories. Clinical skills laboratories are considered to provide flexible, controlled lea environments that allow junior students to make mistakes, while avoiding risks to patients.[58]

Senior medical students traditionally undertake their clinical placements in hospital settings. Wh some private hospitals provide these types of placements, overwhelmingly this clinical experien provided in public hospitals. Students generally rotate through a number of specialties as part o their clinical experience.

For some time there has been concern that the number of clinical training places has been insufficient to cope with increasing numbers of medical students. Professor James Angus from Medical Deans Australia and New Zealand argued in September 2008 for example:

> By 2012 there will be nearly 60 per cent more medical school graduates than that expected in 2008 ... However there has not been a commensurate increase in clinical training places. There is very little point in training Australian medical graduates if there is no significant increase in the number of clinical placements to cater for these students and the quality staff to train them. Students can't learn by looking over the shoulders of 10 others.[59]

In response to such concerns about the adequacy of clinical training places for medical students additional $500 million for undergraduate clinical training places, which includes increasing the clinical training subsidy to 30 per cent for all health undergraduate places, was agreed to at the Council of Australian Governments' (COAG) meeting on 29 November 2008.[60]

Pre vocational Training

All Australian medical graduates are required to complete at least one year of supervised medic experience as interns (this is known as PGY1) once they have obtained their medical degree.[61 Usually this training takes place in a public teaching hospital. Graduates are able to choose the hospital where they will undertake their internship, and mostly, students choose a hospital in th state where they completed their degree.

National training and assessment guidelines for junior medical practitioners recommend that the intern year provides:

- a learning environment in which interns are supported and supervised in the developmen professional values and identity
- opportunities for interns to consolidate and develop knowledge, skills and professional attitudes acquired during undergraduate years
- experience of a range of medical practices and advice in career options
- assistance in developing a sound basis for life-long education
- allocation to units where registrars and consultants have a demonstrated commitment to training of junior medical officers
- supervision by an experienced medical practitioner
- appropriate rostering and after hours supervision
- sufficient contact between supervisors and interns to permit an adequate assessment of performance and to ensure early warning of the need for remediation and
- supervisors with an outline of their responsibilities and regular feedback about their performance as supervisors.[62]

Successful completion of the intern year allows medical graduates to have unrestricted registrat through one of eight state or territory based Medical Boards. However, the national training and assessment guidelines for junior medical doctors note that 'completion of the intern year is insufficient preparation for independent practice of medicine'.[63]

Postgraduate Medical Councils (PMCs) in each state and the Northern Territory are responsible f developing prevocational education and training requirements. Currently, the range of responsibilities of the various PMCs in developing education and training curricula varies. Howev there are moves towards developing a national approach and a draft national Prevocational Med Accreditation Framework (PMAF) was released for consideration in November 2008. The Confederation of Postgraduate Medical Education Councils noted at that time that the PMAF:

> ... aims to increase consistency across the jurisdictions of accreditation practices, align prevocational accreditation practices with other appropriate local and international benchmarks, reduce duplication of work required in each PMC (or its equivalent), and provide increased transparency of accreditation practices. The project has been recognised by the Medical Training and Review Panel (MTRP) as a national priority in prevocational medical education. It also fits in with COAG initiatives towards achieving national registration and accreditation in the health professions.[64]

See Box 2 for more discussion of the COAG national registration and accreditation scheme.

PMCs also provide support to junior doctors, to overseas trained doctors who work in junior med positions in Australian hospitals and to career medical officers (those doctors who choose not to undertake vocational training, but to remain working in the public health system).

On completion of the intern year, graduates in PGY2 'continue to work under supervision with increasing levels of responsibility, in a broad range of health care settings, many of which are training positions deemed acceptable for basic training by colleges'.[65]

Box 2: Medical Registration Boards and the move towards a national registration scheme

Medical Registration Boards are state and territory statutory authorities, funded through medical registration fees. They are independent of government and the medical profession. The primary objectives of the boards have been to protect public health and safety by ensuring that only properly trained people are registered to practise as medical practitioners, and that those registered as medical practitioners maintain proper standards of conduct and competence.

Under the existing system of medical registration in Australia, to practise medicine in any state or territory a person must be registered with the medical board in that state or territory. The *Mutual Recognition Act 1992* (Cth), however, entitles persons who are registered in an occupation, such as medicine, in one state or territory, and who lodge notice to seek registration in an equivalent occupation with the registration authority of another state or territory, to be registered in the second jurisdiction in that equivalent occupation.[66]

In its 2005 report on the health workforce, the Productivity Commission recommended the establishment of a single national registration and accreditation board for health professions. The Commission advocated this consolidation to 'lock in national standards based on qualification requirements' and to improve mobility for the professions.[67]

In response to the Commission's recommendations, the Council of Australian Governments (COAG) decided in March 2008 to establish a national registration scheme which is to commence operation in July 2010. The Queensland Government was given responsibility for the development of a legislative template which other states and the territories will follow in introducing the scheme. Legislation was passed in Queensland in 2008 to begin the implementation processes for the scheme.

Under the scheme, profession-specific boards will be established for the medical, nursing and midwifery, pharmacy, physiotherapy, dental, psychology, optometry, osteopathy, chiropractic and podiatry professions. These national boards will approve accredited courses, oversee registration and the assessment of overseas trained health professionals and undertake investigations into conduct and competence, as well as conditions imposed on the practice of health professionals.[68]

The Australian Medical Association (AMA), the Committee of Presidents of Medical Colleges and the Royal Australian College of General Practitioners (RACGP) have expressed concern about the scheme arguing that it may amount to government interference in the setting of professional standards.[69] The RACGP has suggested further that under the scheme the Government would set skill requirements for the professions and that this may lead to the lowering of professional standards. [70]

On the other hand, Professor Peter Brooks, Executive Dean of Health Sciences at the University of Queensland, argues in favour of the scheme and considers that opposition from the medical profession is simply about maintaining its power base.[71]

Deborah Paltridge has criticised what has been labelled an 'apprenticeship model' of post gradua training. Paltridge argues:

> Increased patient throughput, reduced lengths of stay, increased patient complexity and workforce shortages are threatening the ability of the apprenticeship model to address all the learning needs of PGY1 and PGY2 doctors. Patients have become more knowledgeable about their conditions and more demanding about the standard of the health care they receive.
>
> The apprenticeship model relies on senior clinicians to monitor junior doctors' competencies. An important question is whether the supervision given to junior doctors is adequate to ensure that competency is established. Most of the supervision by senior clinicians is provided by sessional Visiting Medical Officers (VMOs), the great majority of whom also work in the private sector. It is not these individuals, but registrars, who undertake the bulk of day-to-day work-related supervision. Mid-term and end-of-term formal feedback by supervisors is a general requisite of accrediting postgraduate councils. However, anecdotally, Medical Education Officers and Directors of Clinical Training report varying levels of compliance with this in most hospitals, particularly for PGY2 trainees. End-of-term global rating scales of generic attributes are the usual tools used to provide feedback on the progress of individual PGY1 or PGY2 trainees to the hospital.[72]

The move towards a more consistent national approach to postgraduate training currently being considered by PMCs may go some way towards addressing Paltridge's concerns. These include t supervising authorities are left to their own devices to determine:

- the knowledge, skills and attitudes that junior doctors should have
- how these are best learnt, by what stage, and what level of supervision is required and
- assessment procedures required to determine competency.[73]

Not everyone agrees with Paltridge's view. The AMA argues in favour of the apprenticeship mod '[t]raining should be an apprenticeship which is patient focused and skills based. The apprentice model remains the most effective one for training doctors'. At the same time, the AMA makes th point that hospitals and senior clinicians have an obligation to put in place appropriate mechanis to ensure that quality training is offered to junior doctors.[74]

Generalist training issue

In 2006, the AMA argued against suggestions that the generalist nature of the medical training which practitioners undergo in postgraduate years one and two should be replaced by 'early streaming' into specialist training.[75] The AMA argument endorsed an earlier assessment by th Medical Training Review Panel (MTRP) that the initial postgraduate years should aim to achieve well rounded generalist orientation, which prepared medical doctors for their postgraduate train The AMA considered that the shortage of medical practitioners was to blame for this advocacy f change and, while noting that in some instances this approach may work, generally:

> ... the complexity and subtlety of the [medical training] process can be too easily missed in the rush to shorten training times and meet pressing workforce needs. Time spent with patients and with mentors cannot be replaced by fast track teaching

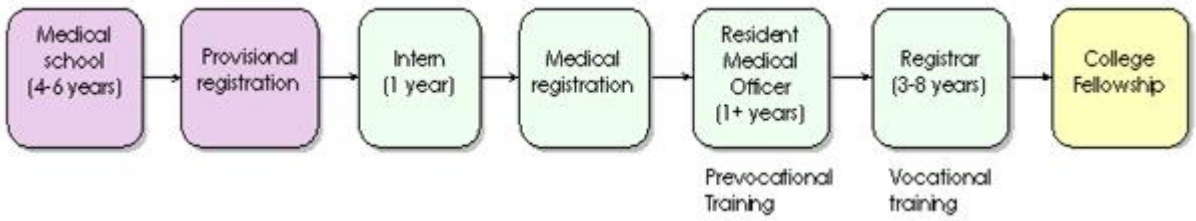
> methods. The growth of 'medical professionalism', which underpins the vocation of medicine, occurs best across a range of settings and medical disciplines, so that varied streams of medical knowledge and practice can be related and understood as part of an integrated whole. Graduates need time to be inducted into professional practice and need time to develop those attributes and skills that only come from time spent with direct patient care and through mentoring by senior clinicians. Early streaming cuts short this time and thus compromises the quality of medical training.[76]

This view was supported by evidence from a 2005 Australian Medical Workforce Advisory Comm (AMWAC) report which revealed that only 18 per cent of doctors had decided at the end of med school what specialty they wanted to pursue and even at the end of their intern year, only 36 p cent had made that decision.[77]

Vocational Training

Many medical practitioners undertake vocational training to achieve a fellowship qualification in chosen speciality immediately following their pre vocational years. Other medical doctors elect t remain in salaried positions in the health system or to work in non clinical positions.[78] The tal below summarises the postgraduate experience for those practitioners who undergo training in specialty discipline.

Table 9: postgraduate medical education



Source: AMA[79]

There are twelve major specialist medical colleges in Australia (see Box 3 below and Appendix E These colleges determine the standards of education and training required for medical practitior to obtain fellowships, and in most cases, the colleges also determine the number of training pla they will provide (numbers for general practice training are determined by the Australian Government; this issue will be discussed later in this paper).[80] Each of the medical colleges h its own particular training program and structure, and college training periods range from three seven years, depending on the specialty. (There are some differences which apply to general practice. See the relevant section later in this paper.)

Once trainees have been accepted into a specialist training program, they are required to apply hospital registrar positions which have been accredited by a relevant college. These positions ar generally in public hospitals.[81] Advanced training is mostly undertaken in hospitals, except fo general practice training, which occurs in general practice training practices. Once they have completed their training, specialists generally can opt to work as staff specialists in public hospi or other health facilities, engage in private practice only, or combine work as visiting medical officers at one or more hospitals, with private practice.

There have been suggestions for a number of years that various colleges have adopted an 'old b club' mentality with regards to the allocation of training places; that is, that they deliberately restrict entry.[82] These types of allegations led the Australian Competition and Consumer Commission (ACCC) to consider if the trainee selection practices of one college, the Royal Austr College of Surgeons (RACS), were in breach of the *Trade Practices Act 1974* Cth). Following a s of investigations, in 2003, the ACCC was reportedly 'aghast at the mean-spirited way surgeons limited people entering the profession - such as by not sending information booklets to foreign applicants when requested'.[83] At the same time however, the regulator granted the college a exemption from prosecution because its selection practices were deemed ultimately to be in the

public interest.

In 2006, the issue surfaced again when the Australian Health Ministers' Conference asked the A to reconsider its earlier decision and to force RACS to provide extra basic training places.[84] R argued however, that it was not the college to blame, but the states and territories which did n provide enough training places in hospitals.[85]

A number of sources considered that this dispute illustrated it was time for governments to be r creative about medical training by encouraging university medical schools to provide alternative options for specialists.

> Some university medical schools are already thinking about it, and have been since the ACCC decreed the RACS training system was anti-competitive, but authorised it on public benefit grounds. It's not brain surgery. State governments provide the training funds, and register the specialists that emerge. There's no law that says the medical colleges have to provide the oversight. It would not even involve excluding the colleges. States could simply put their training requirement out to tender, inviting both the colleges and university medical schools to bid.[86]

At the time, the AMA dismissed the idea as a university 'cash grab'; [87] it has yet to come to fruition and specialist colleges remain the providers of specialist training.

Specialist colleges: training and assessment

A summary of specialist college training and assessment requirements to obtain fellowship statu included in Appendix B.

Box 3: specialist medical colleges

Australian and New Zealand College of Anaesthetists (ANZCA)
The Australasian College of Dermatologists (ACD)
The Australasian College for Emergency Medicine (ACEM)
The Royal Australian College of General Practitioners (RACGP)
The Royal Australasian College of Medical Administrators (RACMA)
The Royal Australian and New Zealand College of Obstetricians & Gynaecologists (RANZCOG)
The Royal Australian and New Zealand College of Ophthalmologists (RANZCO)
The Royal College of Pathologists of Australasia (RCPA)
The Royal Australasian College of Physicians (RACP)
The Royal Australian and New Zealand College of Psychiatrists (RANZCP)
The Royal Australian and New Zealand College of Radiologists (RANZCR)
Royal Australasian College of Surgeons (RACS)

General practice: training and assessment

General practice as a specialty

As medical academics David Weller and James Dunbar note, Australia was slow to recognise ge practice 'as a specific and defined discipline in medicine'.[88] Formal training for general practitioners was introduced in the 1970s by the Royal Australian College of General Practitione (RACGP) under a Family Medicine Program funded by the Australian Government. Training for fellowship of the RACGP was voluntary under this program however, and it remained that docto who were not specialists, were by default, general practitioners. Indeed, 'going into general pra was seen to be the inevitable last resort for those who could not succeed as a specialist'.[89]

In 1988, following a dispute about whether general practitioners should be allowed to bill based the content of a consultation, as opposed to the time spent in that consultation, the RACGP and Government agreed to consider ways by which experienced general practitioners would be allow to bill on content-based descriptors. These discussions eventually led to the introduction of a general practice vocational register in 1989. From that time, general practitioners with recognis (specialist) qualifications or experience were able to attract higher Medicare rebates for their services.[90]

Upon its election in 1996, and in response to the perception at the time that Australia had too n general practitioners, the Howard Government introduced legislation that restricted the issue of Medicare provider numbers. These were issued from that time only to those who had completec recognised course of post graduate training leading to the award of a fellowship, (see Appendix an explanation of these provider number restrictions).[91] While this legislation did not affect previously recognised 'specialists', for general practitioners it meant that those not vocationally recognised and new medical graduates were unable to access higher Medicare rebates (A1 reba unless they gained fellowship qualifications.[92]

This means that generally, non-vocationally registered medical practitioners are still eligible for Medicare rebates, but at lower rates. However, under a series of programs to encourage doctor practice in areas where there are workforce shortages, non-vocationally registered practitioners able to bill Medicare for general practice services at the A1 schedule rate. These programs inclu the Rural Other Medical Practitioners Program.[93]

General practice training

From 1974 to 2001 the Federal Government funded the RACGP to select candidates for general practice training, deliver that training, accredit training practices and assess registrars for fellowship. A 1998 review of general practice training, recommended the development of local collaborative consortia to deliver general practice education and the establishment of a national body which could better coordinate that delivery.[94]

These two recommendations were adopted, and in 2001, a new program, the Australian Genera Practice Training (AGPT) Program, to deliver training in the general practice specialty, was introduced. The program is conducted by an independent, government-run organisation, Genera Practice and Education Training Limited (GPET). In 2009, twenty-one regional providers delivere the AGPT Program on behalf of GPET.[95]

Fellowships for general practitioners continue to be awarded by the RACGP. From April 2007, fellowships are also awarded by the Australian College of Rural and Remote Medicine. Trainees be allocated places on either a general or rural pathway to fellowship. General pathway trainees complete most of their training in metropolitan areas or in large regional centres. Rural pathwa trainees complete all their general practice terms in rural and remote locations.[96]

Trainees for both pathways are chosen after an assessment of three structured referee reports an interview. Trainee preferences are also taken into account when allocating training places. Training is provided in accredited medical practices in urban and rural areas, in hospitals and in specialised medical areas over a period of three years full time for metropolitan registrars and f years for rural and remote registrars.[97]

All registrars must complete some training in rural and remote areas - at least six months for th enrolled in the general pathways and 18 months for those in the rural pathway. Registrars train in the state capital cities and Canberra are also required to spend six months in an accredited

training practice in an outer metropolitan area placement.[98]

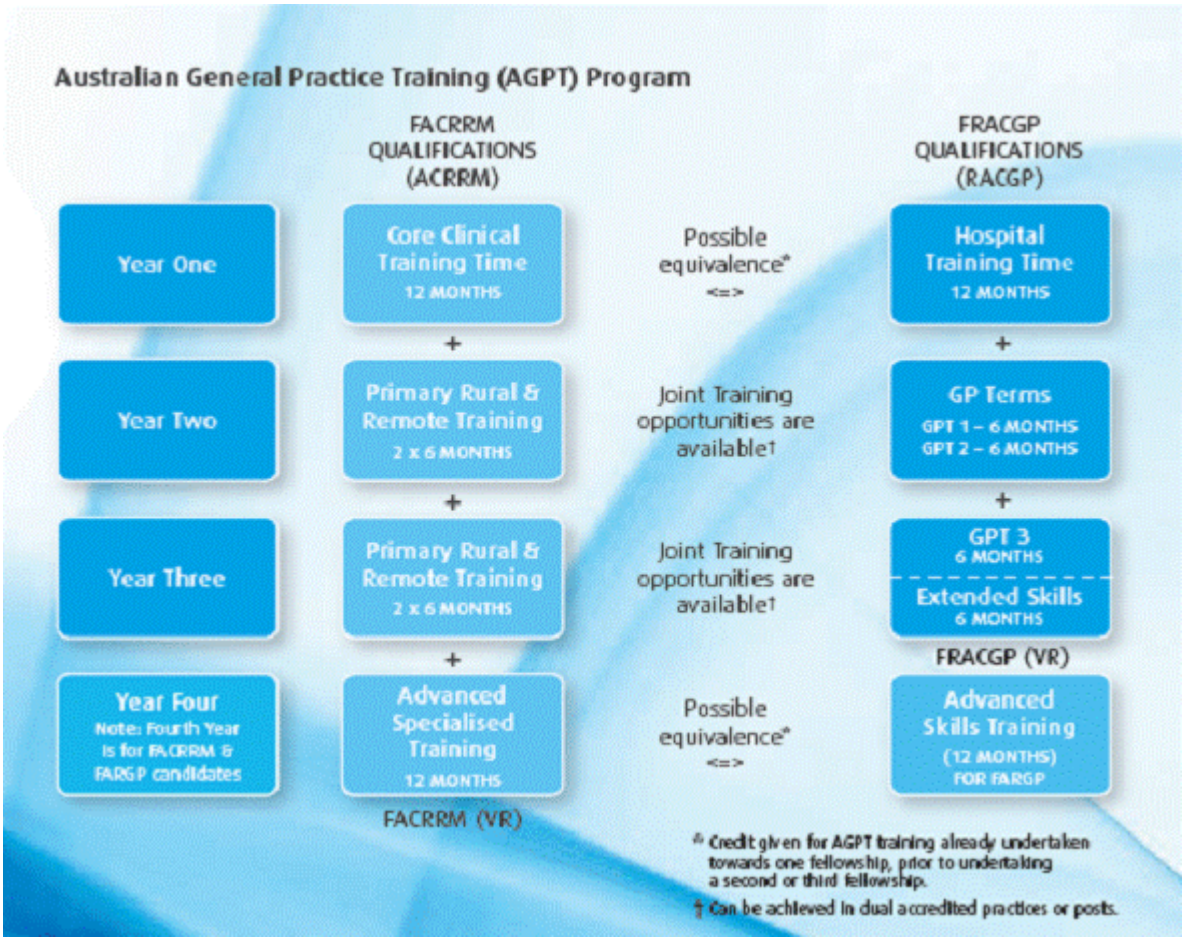
Assessments of trainees are undertaken by regional training providers throughout their training period, but the award of fellowship is dependent on passing final clinical and written RACGP examinations.

The Australian Government imposes a quota on the number of general practitioner training plac available each year.[99] This 'cap' has made entry to general practice training competitive. In recent times, concern over declining numbers of general practitioners has led to a number of increases in the training places cap, but not to any real moves to remove the cap altogether.[1(

In 2008, the Government provided $86 million to provide 212 additional ongoing general practitioner training places (as well as 73 additional specialist training places in the private sect This increase means that there will be over 800 training places available from 2011 onwards.[1(

Table 10 below provides an outline of the fellowship training pathways for general practitioners.

Table 10: Australian General Practice Training Program



Source: AGPT[102]

Continuing education / professional development

Obtaining a fellowship qualification is not the end of the education process for most medical practitioners; medical education has become a continuing process. As one study notes:

> [t]he amount of biomedical knowledge available doubles every 20 years. Therefore, a doctor's practice could become rapidly outdated without activities allowing a clinician's knowledge and skills to remain current. Continuing medical education (CME) is the

mechanism by which doctors keep their practice up-to-date and is defined as 'any and all the ways by which doctors learn after formal completion of their training'.[103]

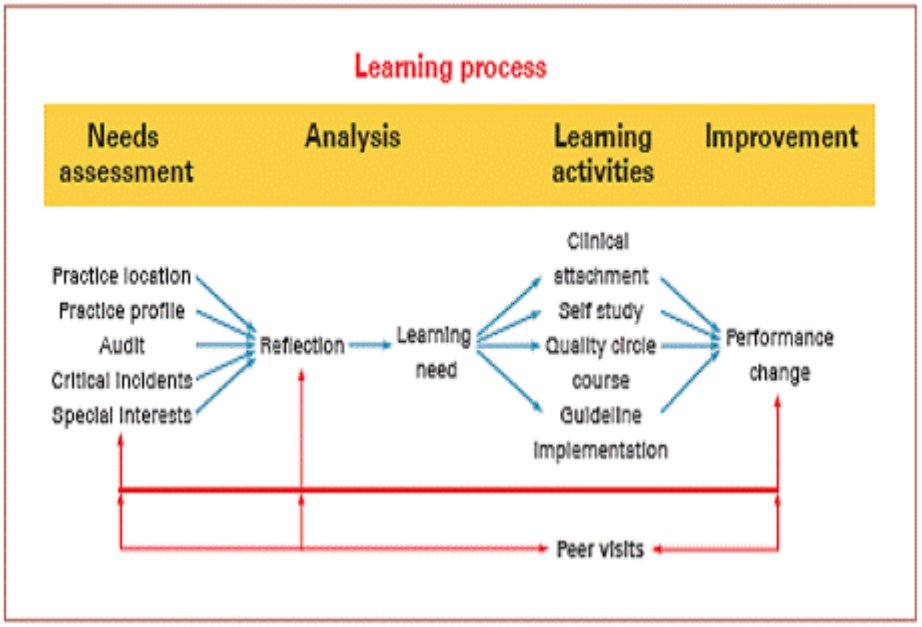
At present, there is no legislation in Australia which compels medical practitioners to participate continuing medical education, or what has more recently been labelled as professional developn However, some state medical boards impose this requirement and hospitals and area health services often require practitioners to demonstrate that they participate in ongoing learning to obtain or retain posts.

Continuing professional development (CPD) is based on the concept of adult learning and on the principles shown in Table 11 below. These involve self directed learning, taking responsibility fo learning outcomes and ideally, according to one source, demonstrating that learning has improv performance and the subsequent health of patients.[104]

CPD activities are classified on three levels which reflect the ability to effect change in practition behaviour and patient outcomes. First level activities are considered to be those which provide information. The level of demand on practitioners created by participation in these activities, wh include meetings and workshops, self assessment tests and reading of journal articles is conside relatively low.

Level Two activities can include preparation for, and taking part in practice reviews, clinical audi critical incident monitoring. They can involve adopting new approaches or techniques in practitioners' clinical practise and participating in workshops, quality control studies and patient satisfaction surveys. Adopting new approaches and techniques are also considered level three activities; at level three, these additionally involve evaluating outcomes.

Table 11: learning processes in continuing professional development



Source: Stermberg and Heard[105]

Some Australian colleges impose fellowship conditions in relation to CPD. The Royal Australian a New Zealand College of Obstetricians and Gynaecologists (RANZCOG) has one of the most rigor of the continuing professional development programs. It requires its fellows and sub specialists accrue 150 points in continuing professional development activities per three year cycle. Practitioners keep their own records of professional development activities undertaken and repo these to the College each year. The College undertakes a random verification exercise annually. [106]

Table 12 below provides a detailed example of a continuing development program; it shows the RACGP requirements for general practitioners in that College's Quality Assurance and Continuin Professional Development program.

Table 12: 2008-2010 RACGP requirements for continuing medical education

2008–2010 RACGP QA&CPD Program requirements (Note: new or modified elements indicated in **bold**)		
A minimum of 130 points is required for the triennium and must include: • two Category 1 activities from the options listed below, and • **completion of a basic cardiopulmonary resuscitation (CPR) course.**		
Category 1 options	Category 2 options	Unaccredited activities
Active learning module **(40 points)** Clinical audit **(40 points)** **Evidence based medicine (EBM) journal club (40 points)** GP research: **(40 points)** • principal investigator • GP research participant Learning plan (one per triennium **capped at 40 points)** **Rapid 'Plan, Do, Study, Act' (PDSA) cycle (40 points)** Small group learning **(40 points)** Supervised clinical attachment **(40 points)** Higher education relevant to general practice (Australian qualifications framework – accredited): • Graduate certificate (60 points) • Graduate diploma (90 points) • Masters degree (120 points) • Doctor of Philosophy degree (PhD) (150 points) RACGP assessment activities (150 points) • FRACGP by examination • FRACGP by practice based assessment • FARGP	Endorsed or accredited provider Category 2 activities (each activity capped at 30 points)	**Self recorded activities (minimum of 10 hours education for 20 points for the triennium)**
Basic CPR course • **Must meet Australian Resuscitation Council (ARC) guidelines** • **Can be a Category 2 activity or part of a Category 1 activity**		

Source: RACGP[107]

There has been some question about the extent to which pharmaceutical companies are involve and influence CPD. Drug companies sponsored 18 060 events, such as seminars, conferences a symposia for doctors and other health care professionals, in Australia in the period 1 July to 31 December 2008. These events were attended by nearly 445 000 people.[108] According to a 2(Australian Broadcasting Corporation (ABC) report, it is not uncommon for the drug companies t suggest speakers who may be sympathetic to their products to attend educational conference sessions.[109] One view is that for this reason the sponsored events are 'marketing masquerad as education'.[110] Some findings suggest that the prescribing habits of medical practitioners a indeed influenced by the information provided at such events.[111] However, another view is th is logical that the producers of drugs deliver information to the medical profession and that drug companies are only part of the continuum of medical education.[112] The issue remains topical controversial.

Conclusion

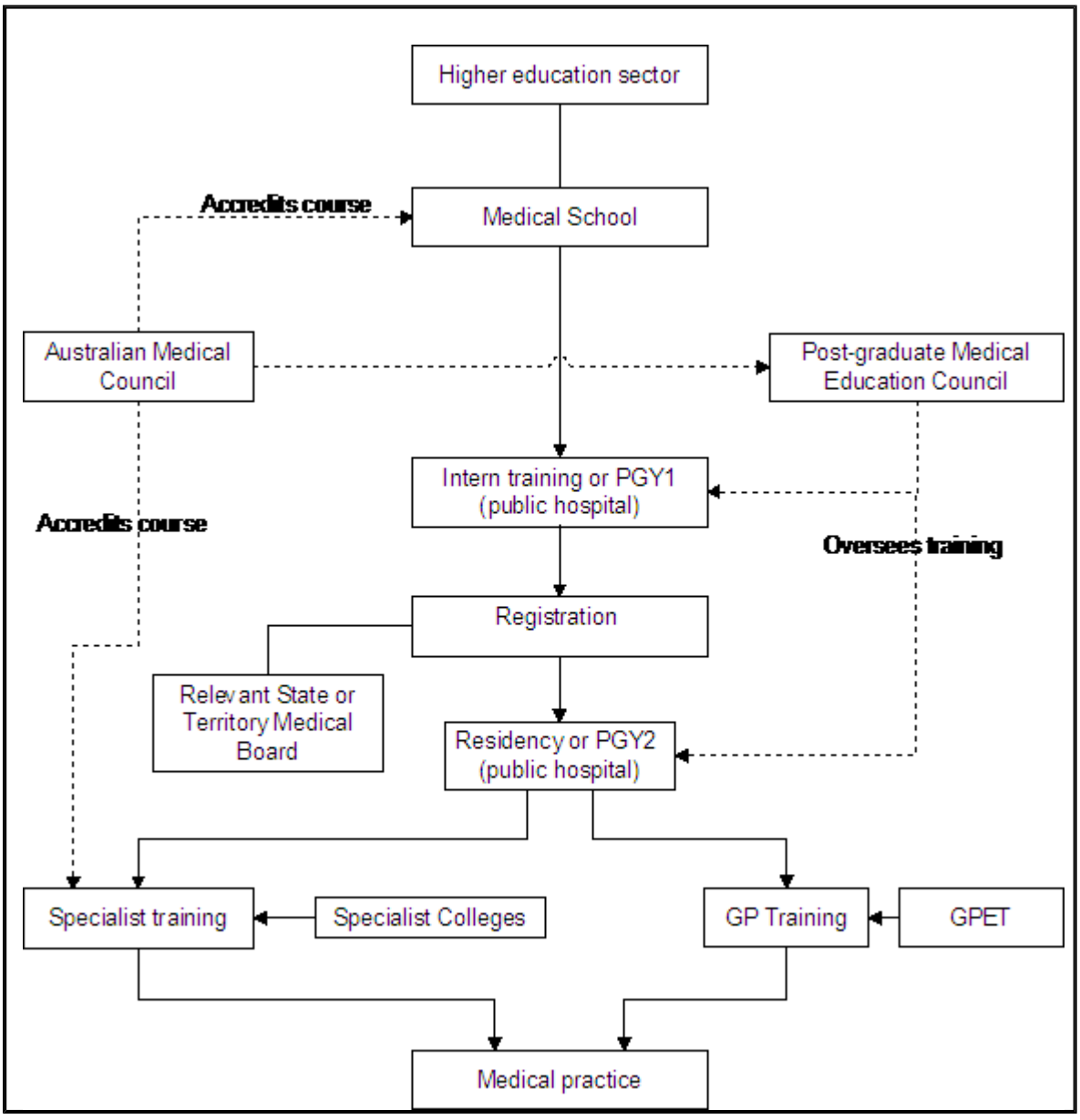
It is a long and arduous road from student to medical practitioner - one upon which, students engage with many players. This brief has noted the involvement of many of these players. Thes include: governments, which develop education and training policies and provide infrastructure; universities and medical colleges, which provide education, training and mentoring, and a numb

other organisations, which monitor processes and provide advocacy on behalf of students and tl medical profession. The brief has illustrated the complexity of the transitional processes for students, and noted that becoming a medical practitioner is not the end of the road; lifelong learning is an integral part of being a medical professional.

The length and difficulty of the medical training road, however, has ensured that 'products' of tl Australian medical education and training are among the best in the world and more than sufficiently skilled to meet the challenges of twenty first century medicine.

Appendix A

Basic outline of medical training in Australia



Source: Productivity Commission, *Australia's health Workforce,* Research report, Canberra, 22 December 2005, p. 365 (Figure B.8).

Appendix B

Specialist colleges: training and assessment

A summary of specialist college training and assessment requirements to obtain fellowship statu included below.

Australian and New Zealand College of Anaesthetists

Anaesthesia involves the administering of various medications, which allow a range of su procedures to be undertaken without causing undue distress to patients. Anaesthetists are involved in other fields, such as critical care medicine and pain medicine.

The Australian and New Zealand College of Anaesthetists notes that anaesthesia has increas become more sophisticated, with the 'development of monitoring devices, the applicatic computer technology and the advent of drugs with fewer undesirable side effects'. It adds alsc the specialty is progressively challenged by the ageing population, who present with co-morbi of increasing incidence and severity.[113]

Trainees for this specialty need to complete a full time five-year program to gain fellowship. The program consists of two years of basic training and three years advanced training. Trainees are assessed progressively and must complete curriculum modules, primary and final examinations either an Effective Management of Anaesthetic Crises or Early Management of Severe Trauma course or equivalent.[114]

Australasian College of Dermatologists

Dermatology is concerned with the diagnosis, treatment and prevention of diseases of the skin its appendages.

To achieve the Fellowship of the College of Dermatologists, full time trainees undertake two yea basic training followed by two years of advanced training. Assessment involves passing clinical science and clinical pharmacology examinations before proceeding to advanced training and the passing of a final examination.[115]

Australasian College of Emergency Medicine

Emergency medicine is the branch of medicine concerned with the prompt diagnosis and treatm of injuries or trauma or sudden illness. The Australasian College describes it as:

> *… a field of practice based on the knowledge and skills required for the prevention, diagnosis and management of acute and urgent aspects of illness and injury affecting patients of all age groups with a full spectrum of episodic undifferentiated physical and behavioural disorders; it further encompasses an understanding of the development of prehospital and inhospital emergency medical system and the skills necessary for this development.*[116]

Training for an Emergency Medicine Fellowship is undertaken over seven years on a full-time ba The first two years involves basic training. This is followed by one year provisional training and years advanced training. The first two years of basic training usually include PGY 1 and 2 (see t discussion of early streaming into specialist education in the body of this paper). Trainees are required to gain 18 months experience in approved non emergency department disciplines durir their advanced training.

To gain fellowship, trainees need to pass a primary examination prior to undertaking advanced training and an examination in the final year of training. They also need either to publish a pape present it at an approved forum.[117]

Royal Australasian College of Medical Administrators

The aim of the Royal Australasian College of Medical Administrators (RACMA) is to promote and advance the study of health services management by medical practitioners. The College prograı based on the assumption that combining skills acquired in the study of medicine with the knowl

and techniques of management 'uniquely qualifie[s] medical practitioners to ensure that the hig standards of medical care are maintained'.[118]

College Fellowship is obtained after three years full time training and completing three years ful time or equivalent of supervised medical management experience in a recognised workplace, fo academic studies at an Australian or New Zealand university in a Masters degree (or equivalent which contains core subjects required by the College and satisfactory completion of the RACMA training program. This program involves participation in College workshops, submission of a Management Practice Portfolio, oral presentation and assessment of a case, submission of Prece Reports and annual oral examinations.[119]

Royal Australian and New Zealand College of Obstetricians and Gynaecologists

Obstetrics and gynaecology is the specialty of medicine concerned with the care of women durir pregnancy and the management of conditions specifically experienced by women.

Fellowship of the Royal Australasian College of Obstetrics and Gynaecology requires completion six years of full time training. This comprises four years of general obstetrics and gynaecology s and two years in which trainees can pursue particular interests, such as a subspecialty.

Assessment involves written and oral examinations. The written assessment, which may be take year three of training, comprises multiple choice and short answer papers. A structured oral examination can be taken in the second half of the fourth year of training.[120]

Royal Australian and New Zealand College of Ophthalmologists

Ophthalmology practice includes the prevention of blindness, promotion of eye health and rehabilitation of those with visual disability.[121]

Training for Fellowship of the Royal Australian and New Zealand College of Ophthalmolo involves two years of basic training after which trainees need to demonstrate skills and knowl in the subjects of Ophthalmic Sciences and Ophthalmic Basic Competencies and Knowledge.[This is followed by two years advanced training. Trainees are required to pass examinations online assessments of subjects studied in the first two years and in the advanced training year on-the-job-assessment and clinical and pathology examinations before becoming eligibl complete a final year. The final year is intended to broaden their experience and is spent prefe at a different institution from the one at which they complete their first four years.[123]

Royal Australian and New Zealand College of Psychiatrists

Psychiatry involves the diagnosis, treatment and prevention of mental illness and emotional problems.[124]

To acquire a fellowship of the Royal Australian and New Zealand College of Psychiatrists require three years basic and two years advanced training. Basic training focuses on the acquisition of knowledge and skills in phenomenology, interviewing, clinical assessment and the principles of management planning in the first year and the development of knowledge and skills in clinical management and teamwork in the second and third years. Basic training assessment is ongoing includes assessments by supervisors, case histories, written examinations and clinical vivas. Advanced training can involve generalist or approved program work which involves experience i mandatory training areas. Assessment also involves supervisor reports, a research project and a final report.[125]

Royal Australasian College of Physicians

In Australia and New Zealand, physicians are specialists in adult internal medicine, paediatrics a child health and associated subspecialties. Physicians practice in areas such as cardiology, geria medicine, haematology (diseases of the blood) and thoracic medicine (diseases of the lungs).[1

Learning assessment for a fellowship of the Royal Australasian College of Physicians is ongoing involves regular feedback exercises and meetings with supervisors. To be eligible for fellowship, trainees need to complete three years of basic training and to pass written and clinical examinations. Basic training involves broad-based training in internal medicine disciplines as we options to undertake internal and non internal medicine rotations. Advanced training involves a further three years in-depth training in a chosen field and ongoing assessment. Fellowship can b awarded once final written and clinical examinations have been passed.[127]

Royal Australian and New Zealand College of Radiologists

Radiology involves the scanning of radiographic images of the body using medical imaging techniques, advanced computers and other equipment that allows radiologists to see inside the body. Radiation Oncology involves the care of patients with cancer and the use of radiation treatment, often in combination with surgery and/or chemotherapy.

Training for fellowship in this specialty takes five years full time. A maximum of one year of this training must be taken overseas. This College notes that in order to be awarded fellowship, a trainee must obtain experience in all imaging modalities available in Australia and New Zealand Assessment in radiology involves a two-part examination; part one in anatomy and applied ima technology and part two in radiology and pathology for radiologists. A two-part examination is a undertaken for students studying radiation oncology. Part one is in anatomy, clinical radiobiolog and radiotherapeutic physics and part two in radiation oncology and pathology.[128]

Royal College of Pathologists Australasia

Pathology is concerned with the study of the nature and causes of diseases. It underpins all asp of medicine and involves a broad spectrum of work from diagnostic testing and monitoring of chronic diseases to genetic research and blood transfusion technologies.[129]

Pathology training takes a minimum of five full time years. Training can be undertaken in: Gene Pathology, Anatomical Pathology (including Histopathology, Cytopathology and Forensic Patholo Chemical Pathology, Clinical Pathology, Forensic Pathology, Genetics, Haematology, Immunolog and Microbiology (including Virology).

To achieve fellowship, students must pass a basic pathological sciences examination followed by first discipline-specialty examination (usually in the third year of training), and a second discipli specialty examination (usually in the final year of training). The latter two examinations involve written, practical and oral components.[130]

Royal Australasian College of Surgeons

Surgeons treat injury, disease and deformity through operations. Many surgeons perform gener surgery, while others specialise in areas such as orthopaedic surgery (the treatment of the musculoskeletal system).

In 2007, the Royal Australasian College of Surgeons introduced a new training program, Surgica Education and Training (SET). This program combines basic and specialist surgical training. Trai are selected directly into one of the nine specialty training programs. The earliest point at which students can apply for the first year of the SET program is during Postgraduate Year Two. Entry the program is in Postgraduate Year Three. SET assessment involves a generic surgical science examination, a specialty-specific surgical examination and a clinical examination.

Trainees then complete specialty training and examination in a number of disciplines, such as general surgery, cardiothoracic surgery, neurosurgery and plastic and reconstructive surgery. T length of further training depends on the specialty area. Paediatric surgery for example, require three years of general surgery training and three years of paediatric specialty training.[131]

Appendix C

Areas of need / districts of workforce shortage

Areas of need

Area of need (AON) is a state and territory classification related to health workforce shortage. refers to any location in which there is a lack of specific medical practitioners or where ther medical positions that remain unfilled even after recruitment efforts have taken place over a p of time. AON can apply to both public and private sector positions.

Districts of workforce shortage

District of workforce shortage (DWS) is an Australian Government classification of health workfo shortage. DWS refers to any areas in which the community is considered to have less access to medical services than that experienced by the population in general. This restriction on access c be because of the remote nature of the community or because there is a lack of services availat the area, or a combination of these two factors.

DWS are calculated by the Department of Health and Ageing and determined with reference to geographic areas (metropolitan or rural Statistical Local Areas known as SLAs) immediately surrounding specific practice locations. The Department uses a doctor-to-population ratio based recent Medicare billing statistics and a 'full time equivalent' measure (FTE) that takes into accou Medicare billing in an area, irrespective of whether medical practitioners work in a part time or time capacity, to assess if there are practitioner shortages in particular areas.

In addition, a delegate of the Minister for Health examines material relevant to the population n for professional services required in districts before making decisions about conferring DWS stat

A preliminary assessment of areas in relation to their DWS status can be requested from the Department of Health and Ageing. Requests need to provide relevant reasons and supporting documentation. Reasons may include:

- population need
- the special nature of the patient group (for example, a large Indigenous population)
- demonstrable changes in the workforce since the most recent quarterly statistics (for example, a significant population increase) or
- the special nature of services to be provided (for example, after hours services).

While for some time only rural and remote areas were eligible for consideration as DWS, it is no recognised that many outer metropolitan areas suffer medical practitioner shortages and these be eligible for consideration as DWS.

Appendix D

Other medical scholarships

John Flynn Placement Program

The John Flynn Placement Program was established in 1997. It is administered by the Austr College of Rural and Remote Medicine on behalf of the Australian Government.

Medical students who are Australian citizens or permanent residents and who are enrolle accredited medical courses at participating universities can apply for a place in the program. 2009, 300 new placements will be available each year. The program offers medical stu placements in the same rural and remote communities, country towns or regional centres minimum of two weeks each year over a period of four consecutive years. Students nee complete the program requirements before they finish their medical degrees.

Each John Flynn program participant works closely with a rural doctor in a wide variety of h

settings, and each experiences one-on-one mentoring. This type and level of mentoring for stu supplements the experience of a university clinical rotation in a hospital or general practice program also encourages students to interact and become involved with local communities.

An amount of $500 per week is paid to students while on placement.

Rural Australian Medical Undergraduate Scholarship

Established in 2000, the Rural Australia Medical Undergraduate Scholarship (RAMUS) scheme as selected students from rural and remote areas to undertake medical degrees. To be eligible for RAMUS, students must have lived in rural or remote areas for a minimum of five consecutive ye or eight cumulative years (commencing from the age of five). RAMUS assists students to meet accommodation, living and travel costs incurred while undertaking medical degrees in urban are

Scholarships awarded under RAMUS do not bond students to work in rural areas, however. Effo are made instead to reinforce student ties to the bush through a rural mentorship program and compulsory membership of university student rural clubs.

Each year, approximately 100 new scholarships are awarded under the RAMUS scheme. This maintains an annual total of 550. Scholarship holders receive $10 000 a year during the comple of a standard medical degree at their chosen university.

New South Wales Rural Resident Medical Officer Cadetships

The New South Wales Government offers 12 Rural Resident Medical Officer Cadetships annuall be eligible, students must be Australian or New Zealand citizens or permanent residents enrolled in the second year of a medical degree at the Universities of Sydney, Wollong Notre Dame or the Australian National University, the third year of study at the Universiti Newcastle or Western Sydney or the fourth year of study at the University of New South Wales. South Wales and Australian Capital Territory residents studying in another state must be enroll their second year graduate medical degree or third last year of an undergraduate medical degre

Students chosen for the cadetships need to demonstrate an understanding of rural medical pra and display a commitment to, and interest in rural practice and lifestyle. They need to work fo years after graduation at rural base hospitals in either, Tamworth, Wagga Wagga, Orange or Du

The cadetships are valued at up to $15 000 each year, depending on other income receive recipients. Cadets are also eligible for a relocation allowance to help with costs associated moving to the country. Cadetship recipients cannot also hold a Rural Australian Me Undergraduate Scholarship (RAMUS) or a Medical Rural Bonded Scholarship.

Assistance for Aboriginal and Torres Strait Islander Students

There are a number of scholarships and bursaries awarded exclusively to Aboriginal and Torres Strait Islander students. These include:

Australian Medical Association Indigenous Peoples' Medical Scholarship

To be eligible, students must not already hold a scholarship. They must be enrolled in an Austr medical school and have successfully completed their first year of a medical degree. Applicants also be eligible for ABSTUDY.

Scholarships are awarded on the recommendation of an advisory committee appointed by Australian Medical Association (AMA) Indigenous People's Medical Scholarship Board of Trust Selection of scholarship recipients is based on satisfactory academic performance and reports referees and statements provided by applicants. These statements are required to des applicants' purposes in studying medicine and their intentions on graduation.

The AMA scholarships are awarded for a full course of study, subject to review at the end of

year. The value of the scholarship in 2009 was a maximum of $9000 per annum.

Puggy Hunter Memorial Scholarship Scheme

The Puggy Hunter memorial scholarship scheme was established by the Australian Governme 2002 to recognise the contribution made by Dr Arnold 'Puggy' Hunter in the field of Aborigina Torres Strait Islander health.

The scheme provides financial support mainly to undergraduate Aboriginal and Torres Strait Isla students in health related disciplines. However, support is also extended to students in grad entry medicine.

Scholarships are awarded on the recommendation of a selection committee which considers community involvement and leadership of students as well as their commitment to impr Aboriginal and Torres Strait Islander health. Scholarships are not bonded and are valued at $15 annually for the duration of the course being undertaken.

Appendix E

Health Insurance Act 1973 (Cth): provider number restrictions

Section 19AA

In 1996, the Howard Government introduced amendments to the *Health Insurance Act 1973* (the Act) to impose minimum proficiency requirements that new medical practitioners must before the services they provide are able to attract Medicare benefits. These amendments made under section 19AA of the Act.

Section 19AA states that medical doctors who were first recognised as practitioners on or af November 1996, are unable to attract Medicare benefits, unless they are recognised ge practitioners, specialists, consultant physicians, or persons undertaking approved placements u section 3GA of the Act (programs under this section of the Act include the Rural Locum I Program). Recognised general practitioners are either vocationally registered general practiti or persons who hold Fellowship of the Royal Australian College of General Practitioners (that postgraduate qualification).

The impact of section 19AA on medical practitioners without postgraduate qualifications depen their residency status.

Permanent residents or Australian citizens

In order to be eligible to provide services that attract Medicare benefits, medical doctors wh permanent residents or Australian citizens must meet one of the following criteria:

- have been recognised as medical practitioners under the Act, prior to 1 November 1996. means that before 1 November 1996, the doctors must have:
  - been permanent residents or citizens of Australia, and
  - completed their internship or period of supervised training (for AMC purposes), and
  - been registered with an Australian Medical Board.
- They must have been recognised as medical practitioners under the Act on or after 1 November 1996, and they must be:
  - recognised under the Act as specialists, consultant physicians or general practitione or
  - in approved placements under section 3GA of the Act.

Temporary residents

Temporary resident medical practitioners are also subject to section 19AB of the Act. Fro

October 2001, section 19AB contains a provision that temporary resident medical practitioners hold what are called section 19AB exemptions (see explanation below) are not affected by restriction on Medicare access contained in section 19AA.

Most temporary resident medical practitioners who were registered in Australia prior to 1 Jan 1997 were no longer subject to Medicare restrictions under section 19AB from 18 October 200 the majority of these doctors had acquired postgraduate qualifications, they were not subje qualification restrictions under section 19AA. However, temporary resident doctors who wer longer affected by Section 19AB after 18 October 2001, but have not gained relevant postgrad qualifications, continue to be subject to section 19AA restrictions.

These doctors are eligible to access Medicare after 18 October 2001, only if any postgrad qualifications they possess have been recognised by a relevant Australian medical college, or if are undertaking approved placements (that is, if they are on training or workforce program specified under section 3GA of the Act).

Section 19AB

Section 19AB of the Act imposes restrictions on doctors who did not obtain their primary medica qualifications in Australia. This includes doctors trained in New Zealand. These doctors are know overseas trained doctors or International Medical Graduates.

Permanent resident or citizen overseas trained doctors

Under the 1996 amendments, Medicare benefits are not payable for professional services rende by permanent resident overseas trained doctors for a period of ten years from the time they firs became medical practitioners, as defined under section 3 of the Act.

Permanent resident or citizen overseas trained doctors are not subject to section 19AB restrictio before 1 January 1997:

- they were registered with an Australian Medical Board or
- they were eligible for assessment of their medical qualifications by the Australian Medical Council and they had made application for that assessment.

For doctors registered before 18 October 2001, the ten year restriction applies from their first recognition as medical practitioners, as defined under the Act. For doctors first registered after October 2001, the restriction applies from the time they were granted permanent residency.

Temporary resident overseas trained doctors

Temporary resident overseas trained doctors are subject to restrictions under section 19AB o Act for an indefinite period.

[1]. Australian Bureau of Statistics (ABS), Australian and New Zealand Standard Classification o upations, first edn, 2006, cat. no. 1220.0, ABS, Canberra, 2006.

[2]. Eighty seven per cent, or 62 425 were working in Australia. The other 13 per cent were on nded leave, not working, working in an area other than medicine or working in medicine overse ustralian Institute of Health and Welfare (AIHW), *Medical labour force 2006*, National health lab orce series no. 41, AIHW, Canberra, October 2008, viewed 12 March 2009, http://www.aihw.go u/publications/hwl/mlf06/mlf06.pdf

[3]. The overall supply of medical practitioners increased from 271 to 290 Full-Time-Equivalent E) per 100 000 population in the period, and the supply of general practitioners decreased from to 97 FTE per 100 000 population, AIHW, *Medical labour force*. The FTE measure of supply is ba on the total hours worked by a health professional, divided by the hours in a standard working for that profession. This varies for different professions. For the medical workforce, 45 total hou r week is equivalent to one FTE.

[4]. Organisation for Economic Cooperation and Development, (OECD), *OECD health data 2008* wed 12 March 2009, http://www.oecd.org/dataoecd/46/36/38979632.xls

[5]. See discussion of the student cap later in this paper.

[6]. B Birrell, 'Australian policy on overseas trained doctors', *Medical Journal of Australia,* vol. 1 o.11-12, 6-20 December 2004.

[7]. ABS, 'Health Services: distribution of general practitioners' *Australian social trends 1994*, ca o. 4102.0, ABS, Canberra, 1994, viewed 12 March 2009, http://www.abs.gov.au/ausstats/abs@ f/2f762f95845417aeca25706c00834efa/0a85acee2642f292ca2570ec00785dc4!OpenDocument

[8]. See references to the provider number legislation later in this paper and Appendix E for det of the legislation. Note also that overseas trained doctors are often referred to as International cal Graduates.

[9]. Access Economics, *An analysis of the widening gap between community need and the avail y of GP services*, Report to the Australian Medical Association, Canberra, February 2002.

[10]. Office of the CEO and President, Royal Australian College of General Practitioners (RACGP) *e supply of general practitioners in outer metropolitan areas*, RACGP, South Melbourne, 31 Marc 03.

[11]. Department of Health and Ageing (DoHA), *Submission to the Senate Select Committee on icare: inquiry into the access to and affordability of general practice under Medicare*, DoHA, 200 ewed 13 March 2009, http://www.aph.gov.au/senate/committee/medicare_ctte/fairer_medicare missions/sub138.pdf

[12]. In 2004, there were 234 new medical places, an additional 246 in 2005, and the largest ir se in 2006, when 605 new places were announced by the Prime Minister. J Howard (Prime Minis *More doctors, nurses and allied health professionals for Australia's health system,* media release July 2006.

[13]. Senate Community Affairs Committee, Answers to Estimates Questions on Notice, Health Ageing Portfolio, Additional Estimates 2007-2008, 22 October 2008, Question: E08-177.

[14]. Productivity Commission, *Australia's health workforce*, Research report, Canberra, 2005, d 13 March 2009, http://www.pc.gov.au/__data/assets/pdf_file/0003/9480/healthworkforce.pd

[15]. Most funding for public hospitals comes from governments. In 2005-06, the Australian Go

ment contributed 41 percent of hospital funding and the states and territories 51 per cent. AIHW *ealth expenditure Australia 2005-06*, Health and welfare expenditure series no. 30, AIHW, Canb October 2007, viewed 13 March 2009, http://www.aihw.gov.au/publications/hwe/hea05-06/hea 6.pdf

[16]. The Australian Medical Council (AMC) also assesses the qualifications of overseas trained d rs who wish to practise medicine in Australia. The AMC website provides more detailed informat n its role and responsibilities, viewed 11 March 2009, http://www.amc.org.au/

[17]. See discussion later in this paper.

[18]. Productivity Commission, *Australia's health workforce,* op.cit., p. 72.

[19]. Confederation of Postgraduate Medical Councils website, viewed 12 March 2009, http://ww pmec.org.au/Page/postgraduate-medical-councils

[20]. AMC, 'Assessing basic medical education', AMC website, viewed 23 December 2008 http:/ w.amc.org.au/index.php/accreditation-aamp-recognition-mainmenu-188/medical-schools-mainm u-194

[21]. Australian Medical Association (AMA), Becoming a doctor and bonded medical school place guide for prospective medical students, AMA, viewed 12 March 2009, http://www.ama.com.au/i e/4130

[22]. The consortium also included the Universities of Auckland and Otago in New Zealand.

[23]. Undergraduate Medical and Health Sciences Admission Test (UMAT) Consortium universiti hich use the UMAT test in 2009 are University of Adelaide, Bond University, University of Melbou Griffith University (no undergraduate entry for medicine), University of Newcastle/University of England, University of Queensland, Monash University, University of Western Sydney, University Otago, University of Auckland, University of New South Wales, University of Tasmania and Univ y of Western Australia. Note: UMAT is also used by universities to assess students for dentistry other health science courses. See UMAT website for more information, viewed 11 December 200 ttp://umat.acer.edu.au/index.php?option=com_frontpage&Itemid=1

[24]. The University of Melbourne has not included interviews as part of its undergraduate selec process. However, 2008 was the final year of its undergraduate medicine course. The final year s graduate medicine course is 2009, after which in 2011 it will introduce a new Doctor of Medici ourse. A 'multi mini interview' will be a selection component. See the Melbourne Model Medicine page, viewed 11 December 2008, http://www.medicine.unimelb.edu.au/melbourne_model/ for information.

The multi mini interview it appears will be similar to that undertaken for example at the Univers f Western Sydney. This involves applicants being asked a series of questions by separate intervi s at separate interview stations. Applicants have limited time to respond to each question befor ving to the next interview station.

The Universities of Otago and Queensland do not use interviews as part of their selection proces

[25]. J Rhem, 'Problem-based learning: an introduction' *The National Teaching and Learning Fo* vol. 8, no.1, 1998, p.1.

[26]. H Barrows, 'Foreword', in D Evenson and C Hmelo, eds, *Problem-based learning: a*

research perspective on learning interaction, Lawrence Erlbaum Associates, New Jersey, 2000 ir arrett, 'Understanding problem-based learning', in T Barrett, I MacLabhrainn and I Fallon, eds, *H book of enquiry and problem based learning*, CELT, Galway, 2005, viewed 11 December 2008, h p://www.aishe.org/readings/2005-2/chapter2.pdf

[27]. Barrett, 'Understanding problem-based learning', op.cit.

[28]. P Karmel, Schools in Australia: report of the Interim Committee for the Australian Schools mmission, Australian Government Publishing Service (AGPS), Canberra, 1973.

[29]. P Finnucane, S Johnson and D Prideaux, 'Problem-based learning: its rationale and efficac *edical Journal of Australia*, no. 168, 1998, viewed 11 December 2008, http://www.mja.com.au/c/issues/may4/finucane/finucane.html

[30]. D Wood, 'ABC of learning and teaching in medicine: problem based learning', *British Medi urnal*, no. 326, 2000, viewed 11 December 2008, http://www.bmj.com/cgi/reprint/326/7384/3 df

[31]. Graduate Australian Medical School Admission Test (GAMSAT) information booklet for 200 d information available on the GAMSAT website, viewed 12 December 2008, http://gamsat.acer u.au/index.php?option=com_content&task=view&id=5&Itemid=1

[32]. Medical Deans Australia and New Zealand, National clinical training review: report to the M al Training Review Panel Clinical Training Sub Committee, February 2008, viewed 12 December 8, http://www.medicaldeans.org.au/pdf/Medical%20Deans%20National%20Clinical%20Training Review%20March.pdf

[33]. GAMSAT, *Graduate Australian medical, dental and pharmacy admissions guide 2009*, Aust n Council for Educational Research (ACER), May 2008, viewed 13 March 2009, http://gamsat.ac du.au/images/documents/GMAC_Admission_Guide_2009.pdf

[34]. See Department of Education, Employment and Workplace Relations (DEEWR), 'Course Fi information on the Department website, viewed 16 March 2009,

http://www.goingtouni.gov.au/Main/CoursesAndProviders/ProvidersAndCourses/CourseFinderDi mer.htm and Queensland Tertiary Admissions Centre information on Bond University, viewed 16 ch 2009, http://www.qtac.edu.au/Courses/courses/guide2009/020712.htm

[35]. To be eligible for these loans, students must be Australian citizens, holders of permanent anitarian visas who will be resident in Australia for the duration of the unit, or the holders of pe ent visas who are undertaking bridging study for overseas-trained professionals and will be resi in Australia for the duration of the unit.

[36]. DEEWR, Full fees and FEE-HELP page, viewed 12 December 2008, http://www.goingtouni. au/Main/FeesLoansAndScholarships/Undergraduate/FullFeesAndFEE-HELP/Default.htm

[37]. DEEWR, *FEE-HELP information 2008*, viewed 12 December 2008, http://www.goingtouni.g u/NR/rdonlyres/93C2F7D7-7A2C-4B1D-800F-5C714290416B/0/FEEHELP2008.pdf

[38]. S Smith, (Shadow Minister for Education*) Better access, a fairer system: Labor's full fee d e phase out***,** media release, 22nd November 2007, viewed 22 May 2009, http://parlinfo.aph.gov parlInfo/download/media/pressrel/H41P6/upload_binary/h41p61.pdf;fileType%3Dapplication%2

[39]. Australian Government, 'Part 2: Expense measures, Education, Employment and Workplac lations', *Budget measures: budget paper no. 2: 2008-09*, Commonwealth of Australia, Canberra 08.

[40]. Eligible students are Australian citizens or holders of permanent humanitarian visas.

[41]. DEEWR, HECS-HELP page, viewed 12 December 2008, http://www.goingtouni.gov.au/Mai ickfind/PayingForYourStudiesHELPLoans/HECSHELP.htm#10

[42]. DEEWR, Information for Commonwealth supported students, 2009, viewed 12 December 8, http://www.goingtouni.gov.au/NR/rdonlyres/D605333E-C121-490E-8810-6DD50B0C1AEC/0/

S2009bookletforGTU.pdf.

[43]. DEEWR, Information for Commonwealth supported students, op.cit.

[44]. See the Bonded Medical Places Scheme information booklet, viewed 18 December 2008, http://www.health.gov.au/internet/main/publishing.nsf/Content/72250B3DBBC33255CA2573940070/$File/info09.pdf

[45]. For information on the HECS Reimbursement Scheme see Department of Health and Ageing website, viewed 18 December 2008, http://www.health.gov.au/hecs

[46]. See Country Health SA website, viewed 18 December 2008, http://www.countryhealthsa.sa.gov.au/Default.aspx?tabid=40

[47]. In 2005, the Queensland Government made a commitment to fund 235 new medical student places at Griffith University, Gold Coast campus, in response to the increasing shortage of doctors in Queensland. P Beattie (Queensland Premier and Minister for Trade) , *Funding to train more doctors to address shortage*, media release, 1 July 2005, viewed 19 March 2009,

http://www.cabinet.qld.gov.au/MMS/StatementDisplaySingle.aspx?id=41589. In May 2008, the Commonwealth Government agreed to reimburse the Queensland Government for the cost of training the students. J Breusch, 'Bligh lauds Rudd for healthy refund', *The Australian Financial Review* 5 June 2008, p.6, viewed 19 March 2009, http://parlinfo.aph.gov.au/parlInfo/download/media/pressclp/6UBQ6/upload_binary/6ubq62.pdf;fileType=application%2Fpdf#search=%22media/pressclp/6UBQ6%22

[48]. This means that they do not graduate with a HECS-HELP debt. See also information pamphlet at Queensland Health website, viewed 19 December 2008, http://www.health.qld.gov.au/orh/scholarships/qhbms/docs/flyer.pdf

[49]. Australian Defence Force website information on the sponsored undergraduate scheme, viewed 19 December 2008, http://www.defencejobs.gov.au/education/University/SponsoredUndergrade.aspx

[50]. Medical Training Review Panel (MTRP), *Twelfth report*, DoHA, 2009, viewed 2 June 2009, http://www.health.gov.au/internet/main/publishing.nsf/Content/E0919C9B7F532639CA2575B4000E4/$File/mtrp122.pdf. The MTRP cites as its source Medical Deans of Australia and New Zealand and the Department of Health and Ageing. Note: Table 7 does not include Australian Defence Force scholarship holders.

[51]. See more detail at the Australian Council for Educational Research website, viewed 23 December 2008, http://www.acer.edu.au/isat/index.html

[52]. Details can be found on the Association of American Medical Colleges website, viewed 3 February 2009, http://www.aamc.org/students/mcat/

[53]. Calculated from tables in DEEWR, Selected higher education statistics, (All students in a course leading to provisional registration as a medical practitioner by permanent home residence and citizenship) 2006, July 2008. Note: at the time there were 8768 domestic medical students.

[54]. For further information on International students in Australia see the DEEWR website page *udy in Australia*, viewed 19 December 2008, http://www.goingtouni.gov.au/Main/Quickfind/InternationalStudents/StudyInAustralia.htm

[55]. The University of Wollongong charges $148 400 for a Bachelor of Medicine and Bachelor of gery degree. The University of Melbourne charges $327 640 for a Bachelor of Medicine and Bachelor of Surgery/Bachelor of Medical Science degree. See other course details at the following website wed 19 December 2008, http://www.studyinaustralia.gov.au/Sia/en/CourseSearch/InstitutionLi px?Sectors=&States=ACT,NSW,NT,QLD,SA,TAS,VIC,WA&FoEBroad=06&FoENarrow=0601&FoED

led=060101&Institution=&Course=&CRICOS=&Foundation=False&Component=False&LevelOfSt
=Bachelor+Degree

[56]. MTRP, *Eleventh report,* DoHA, 2007, viewed 23 December 2008, http://www.health.gov.a
ernet/main/publishing.nsf/Content/EE0C89E5EA6C1DA8CA2573F70002AD70/$File/mtrp11.pdf.
MTRP cites as the source of the table Medical Deans of Australia and New Zealand.

[57]. Medical Deans Australia and New Zealand, *National clinical training review,* op.cit.

[58]. Medical Deans Australia and New Zealand, *National clinical training review,* op.cit.

[59]. Medical Deans Australia and New Zealand, *Clinical training at risk if not funded by Healthc
greements,* media release, Sydney, 8 September 2008, viewed 3 February 2009, http://www.m
ldeans.org.au/media_090808.html

[60]. Council of Australian Governments'(COAG), *Communique*, COAG meeting, 29 November 2
viewed 23 December 2008, http://www.coag.gov.au/coag_meeting_outcomes/2008-11-29/inde
m

[61]. During prevocational training graduates are usually referred to as Resident Medical Officer
Residents.

[62]. Advisory Committee for the National Guidelines for Junior Medical Officer Training and Ass
ent*, National training and assessment guidelines for junior medical doctors PGY1 and 2,* DoHA,
uary 2003, viewed 7 January 2009, http://www.health.gov.au/internet/main/publishing.nsf/Cor
D6B73B29A89F0632CA256F1900140F5E/$File/nat.pdf

[63]. Advisory Committee for the National Guidelines for Junior Medical Officer Training and Ass
ent, *National training and assessment guidelines,* op.cit.

[64]. Confederation of Postgraduate Medical Education Councils (CPMEC), *Prevocational medica
cation framework*, CPMEC, Fitzroy, Victoria, viewed 7 January, http://www.cpmec.org.au/Page/
cational-medical-accreditation-framework

[65]. D Paltridge, 'Prevocational medical training in Australia: where does it need to go?' *Medica
rnal of Australia,* vol. 184, no. 7, viewed 7 January 2009, http://www.mja.com.au/public/issues
_07_030406/pal10094_fm.html

[66]. See clause 20 of the *Mutual Recognition Act 1992* (Cth), viewed 7 January 2009, http://w
ustlii.edu.au/au/legis/cth/consol_act/mra1992221/s20.html

[67]. Productivity Commission, *Australia's health workforce*, op.cit., p.xxv.

[68]. Health Practitioner Regulation (Administrative Arrangements) National Law Act 2008 (QLD
rt 5, National Boards, viewed 17 March 2009, http://www.austlii.edu.au/au/legis/qld/consol_act
anla2008701/

[69]. J Flannery, 'National registration flashpoint', *Australian Medicine*, 7 April 08, viewed 17 Ma
009, http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22library%
nart%2FS82Q6%22

[70]. H Ferguson, 'Regulation threatens CPD standards', *Australian Doctor,* 14 November 2008,
ed 17 March 2009, http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3
2library%2Fjrnart%2FLN3S6%22

[71]. S Lane, 'Interview with P Brooks and N Zwar, 'Doctors divided over national registration s
e', *PM* transcript, Australian Broadcasting Corporation (ABC), 25 March 2008, viewed 17 March
9, http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22emms%2F
s%2F99926%22

[72]. Paltridge, 'Prevocational medical training in Australia', op.cit.

[73]. Paltridge, 'Prevocational medical training in Australia', op.cit.

[74]. AMA, *Prevocational medical education and training*, AMA 2005, viewed 16 March 2009, htt
www.ama.com.au/node/2181

[75]. AMA, *Early streaming into specialty training*, AMA, December 2006, viewed 20 March 200
p://www.ama.com.au/node/2547

[76]. AMA, Early streaming into specialty training, op.cit.

[77]. Australian Medical Workforce Advisory Committee (AMWAC), *Career decision making by p
aduate doctors*, AMWAC medical careers surveys 2004, viewed 20 March 2009, http://www.nhw
v.au/documents/Publications/2005/Career%20decision%20making%20by%20postgraduate%2(
ors%20-%20%20Main%20report.pdf

[78]. Note: prevocational doctors are defined as those in postgraduate years one (PGY1) and tw
GY2), but this term also refers to medical staff in subsequent years who are not enrolled in a sp
ty training program (PGY3+). Those doctors enrolled in vocational training programs are require
take up registrar positions in the specialty of their choice. These doctors are known as registrars
gistrars are qualified doctors, who are able to take medical histories, order tests, make diagnos
rovide treatment, make referrals and write reports. Depending on the medical needs of patients
the experience of registrars, they may be able to undertake these tasks without help or with the
stance of supervising specialists.

[79]. AMA, Becoming a doctor and bonded medical school places, op.cit.

[80]. Specialist colleges also assess the qualifications of overseas trained doctors who wish to p
se as specialists in Australia.

[81]. A registrar is defined as a registered doctor who is undergoing a training programme in a
en specialty in order to obtain qualifications in that specialty.

[82]. A Fels and F Brenchley, 'An unhealthy monopoly', *The Australian Financial Review*, 20 Sep
er 2005, p. 62.

[83]. 'College's grip must be loosened', Editorial, *The Australian Financial Review*, 23 February 2
p. 62.

[84]. F Brenchley, 'Push to scrap doctors' monopoly', *The Australian Financial Review*, 22 Febru
006, pp.1,4.

[85]. Branchley, 'Push to scrap doctors' monopoly', op.cit.

[86]. Fels and Brenchley, 'An unhealthy monopoly', op.cit.

[87]. AMA, *Universities put cash grab ahead of quality specialist training*, AMA, 23 March 2006,
ed 16 March 2009, http://www.ama.com.au/node/2268

[88]. D Weller and J Dunbar, 'History, policy and context', in DoHA, *General practice in Australi
4*, Budget and Performance Branch, DoHA, Canberra, 2005, p. 4.

[89]. M Bollen and D Saltman, 'A history of general practice in Australia', in *General practice in
alia 2000,* op.cit. p. 13.

[90]. A vocational register was created which listed these practitioners with the Health Insuranc
mmission (now known as Medicare Australia). From 1994, no more doctors were accepted on th

gister. Following the introduction of the provider number legislation, doctors who were not on th gister were not eligible for 'grandfathering' as vocationally registered practitioners.

[91]. A Medicare provider number uniquely identifies a medical practitioner and the location wh e or she provides medical services. There are different types of provider numbers which are dep nt on the category of medical board registration of doctors or the legislative requirements to wh hey are subject.

[92]. The 1996 legislation was controversial. Many argued that it led to injustices for those doct who had not applied for vocational registration (for a variety of reasons) and for those who just ed out on experience qualifications. Similarly, it was argued that the legislation unjustly treated cal students who had commenced studies before the introduction of the legislation. This was be these students had commenced study with the expectation that they would be able to access M re rebates without having to obtain a general practice fellowship.

[93]. The Department of Health and Ageing website has more information on the Rural Other M l Practitioners Program, viewed 16 March 2009, http://www.health.gov.au/internet/main/publis nsf/Content/work-pr-romps

[94]. Department of Health and Family Services,(DHFS) *General practice education - the way fo d,* Report of the Ministerial Review of General Practice Training, DHFS, Canberra, 1998, p. ix, qu in R Hays, P Worley and B Coote, 'Education and training', *General practice in Australia 2004,* op p. 289.

[95]. A list of training providers and links to their websites can be found on the Australian Gene actice Training Program (AGPT) website, viewed 4 February 2009, http://www.agpt.com.au/Tra Providers/TrainingProviderLinks/

[96]. Note: overseas trained doctors, who are permanent residents and affected by provider nu restrictions introduced by the Howard Government in 1996 and who choose to undertake trainir a general practice fellowship, are only eligible to apply for the rural training pathway.

[97]. General Practice and Education Training Ltd (GPET), *The Australian general practice traini ogram 2009 handbook*, RACGP, Canberra, 2008.

[98]. DoHa notes that for the purposes of programs such as the Outer Metropolitan Areas Meas outer metropolitan means: 'the part of the State capital city Statistical Division (using the curre stralian Standard Geographic Classification definition) that lies outside the 1991 Urban Centre U ea of the capital city'. Viewed 5 February 2009, http://www.health.gov.au/internet/main/publis nsf/Content/outermet-relocguide-toc~outermet-relocguide-5 and taken from ABS, Australian St rd Geographical Classification (ASGC), cat. no. 1216.0, ABS, Canberra, July 2007. Maps of area ned as outer metropolitan areas, viewed 5 February 2009, can be found at: http://www.health. u/internet/main/publishing.nsf/Content/work-pr-rig-maps

[99]. This quota was originally introduced in 1993 when it was perceived that there was an ove ly of general practitioners. National Health Strategy, *The future of general practice*, issues pape 3, March 1992, p. 59 re oversupply, and K Eccles, 'Government pledges 900 GP training places 011', *Medical Observer*, 8 November 2007, viewed 5 February 2009, http://www.medicalobserv m.au/medical-observer/articles/News.aspx/Govt-pledges-900-GP-training-places-by-2011

[100]. It could be argued that the AMA would be most likely to call for a complete removal of th p, but the comments by the organisation have been ambiguous. While it has called for the cap t 'lifted', this could be interpreted as a call to raise the numbers of places, rather than completely oving the cap. AMA, *Urgent need to train more GPs*, media release, 31 October 2008, http://ww ma.com.au/node/3481

[101]. K Rudd (Prime Minister) and N Roxon (Minister for Health), *A stronger health workforce - e doctors and nurses*, media release, 30 November 2008, viewed 17 March 2009, http://www.h h.gov.au/internet/ministers/publishing.nsf/Content/mr-yr08-nr- nr165.htm?OpenDocument&yr= 8&mth=11

[102]. AGPT, *2009 AGPT handbook*, AGPT, viewed 18 March 2009, http://www.agpt.com.au/Pol Publications/AGPTHandbook/

[103]. J Wyatt and F Sullivan, 'Keeping up: learning in the workplace', *British Medical Journal*, r 31, 2005, pp. 1129-32 and D Davis, 'Continuing medical education. Global health, global learnir *British Medical Journal*, no. 316, 1998, pp. 385-9, quoted in G Stewart and M Khadra, 'The cont g medical education activities and attitudes of Australian doctors working in different clinical spe ies and practice locations', *Australian Health Review*, vol. 33, no.1, 2009, pp.47-56, viewed 18 h 2009, http://www.aushealthreview.com.au/publications/articles/issues/ahr_33_1_0209/ahr_3 _047.asp

[104]. J Stermberg and S Heard, 'General practice education in Australia', *Australian Family Phy n* vol. 33, no. 5, May 2004, viewed 17 March, http://www.racgp.org.au/afp/200405/20040510h d.pdf

[105]. Stermberg and Heard, 'General practice education in Australia', op.cit., p.355.

[106]. Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCO *he RANZCOG CPD program*, RANZCOG website, viewed 18 March 2009, http://www.ranzcog.ed u/fellows/cpd.shtml

[107]. RACGP, *Introducing the 2008-10 RACGP QA&CPD program*, Triennial program requireme RACGP, viewed 16 March 2009, http://www.racgp.org.au/Content/NavigationMenu/educationan ning/QACPD/20082010Triennium/200709QACPD_NewTriennium_Flyer.pdf

[108]. Medicines Australia, *Educational event reports*, viewed 2 June 2009, http://www.medicin stralia.com.au/pages/page136.asp

[109]. 'Paying the medical piper', *Background briefing*, transcript, ABC, 24 February 2008, view June 2009, http://www.abc.net.au/rn/backgroundbriefing/stories/2008/2166307.htm

[110]. Dr Des Spence, from the pressure group No Free Lunch, quoted in R Moynihan, 'Doctors cation: the invisible influence of drug company sponsorship', *British Medical Journal*, 336, 23 Fe ry 2008, pp. 416-417, viewed 2 June 2009, http://www.bmj.com/cgi/content/full/336/7641/41

[111]. M Bowman and D Pearle, 'Changes in drug prescribing patterns related to commercial co ny funding of continuing medical education', *Journal of Continuing Education in the Health Prof ns* 8, 1988, pp. 13-20 ; A Wazana, ' Physicians and the pharmaceutical industry: is a gift ever j gift?' *Journal of the American Medical Association (JAMA)* 283, 2000, pp. 373-80 and J Lexchin, ractions between physicians and the pharmaceutical industry: what does the literature say?' *Ca an Medical Association journal (CMAJ)* 149, 1993, pp. 1401-7 cited in Moynihan, 'Doctors' educa n', op.cit.

[112]. Dr B Ketelbey, representing Pfizer Australia, 'Doctors and drugs' *Insight,* Special Broadca g Service, (SBS), 26 May 2009.

[113]. Australian and New Zealand College of Anaesthetists (ANZCA), *Anaesthesia as a career*, CA website, viewed 4 February 2009, http://www.anzca.edu.au/anzca1/anaesthesia/anaesthesi s-a-career

[114]. See overview of training program at the ANZCA website, viewed 4 February 2009, http:/ w.anzca.edu.au/trainees/atp

[115]. See Australasian College of Dermatologists, *Training program handbook*, January 2008, ed 8 January 2009,

[116]. Definition from International Federation for Emergency Medicine 1991, as noted on the C ge website, viewed 8 January 2009, http://www.acem.org.au/about.aspx?docId=10

[117]. See training information section on the College website, viewed 8 January 2009, http://v
acem.org.au/media/regulations/05_Elements_of_Training.pdf

[118]. The Royal Australasian College of Medical Administrators, *Handbook*, Thirteenth edn, 20(
ewed 4 February 2009, http://www.racma.edu.au/index.php?option=com_content&task=view&
5&Itemid=54

[119]. See College website, viewed 8 January 2009, http://www.racma.edu.au/. Note: a precep
s an experienced medical professional who provides training, observation and support for a less
erienced trainee.

[120]. The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RAN
G), *Training program handbook 2009*, RANZCOG, December 2008, viewed 12 January, 2009, ht
www.ranzcog.edu.au/publications/pdfs/education/Training-Handbook.pdf

[121]. Royal Australian and New Zealand College of Ophthalmologists (RANZCO), *Ophthalmolog
a career*, RANZCO website, viewed 4 February 2009, http://www.ranzco.edu/aboutus/college-in
ation/career

[122]. The Ophthalmic Sciences are anatomy, physiology, optics, clinical ophthalmic pharmacol
and emergency medicine, genetics, microbiology and epidemiology.

[123]. Royal Australian and New Zealand College of Ophthalmologists (RANZCO), *Vocational tra
g program*, RANZCO website, viewed 4 February 2009, http://www.ranzco.edu/training

[124]. Royal Australian and New Zealand College of Psychiatrists (RANZCP), *About psychiatry*, R
P website, viewed 6 February 2009, http://www.ranzcp.org/about-us/becoming-a-psychiatrist-2
ml

[125]. RANZCP, Information on basic and advanced training for fellowship, RANZCP website, No
ber 2003, viewed 6 February 2009, http://www.ranzcp.org/fellowship/general-training.html

[126]. See list of physician specialties on the Royal Australasian College of Physicians (RACP) w
e, viewed 9 February 2009, http://www.racp.edu.au/page/becoming-a-physician/what-is-a-phy
n

[127]. RACP, *Requirements for physician and paediatric training, 2008 handbook Australia*, RAC
008 and basic overview of training on the RACP website, viewed 9 February 2009, http://www.r
edu.au/index.cfm?objectid=230C0787-E290-CFF6-6D5BB1783F231723

[128]. Royal Australian and New Zealand College of Radiologists, 'Training in radiology', viewed
arch 2009, http://www.ranzcr.edu.au/educationandtraining/radiodiagnosis/training/index.cfm

[129]. The Royal College of Pathologists of Australasia (RCPA), *What is pathology?*, viewed 5 Ma
2009, http://www.rcpa.edu.au/pathology.htm

[130]. RCPA, *Trainee handbook*, RCPA, Surrey Hills, October 2008, viewed 5 March 2009, http:/
w.rcpa.edu.au/static/File/Asset%20library/member%20documents/Training/Handbooks/Trainee
dbook.pdf

[131]. Royal Australasian College of Surgeons (RACS), education and training pages, viewed 5 I
h, http://www.surgeons.org/Content/NavigationMenu/EducationandTraining/EducationandTraini
verview/default.htm

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