

SUBMISSION TO

THE AUSTRALIAN GOVERNMENT'S

BASE FUNDING REVIEW OF HIGHER EDUCATION

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Submission made from Medical Deans Australia and New Zealand Inc

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Summary

- Medical education has changed dramatically in recent decades. The number of medical schools has grown from eight in the 1970s to 18 today; the number of commencing medical students has more than doubled between 2000 and 2010 and there has been a three-fold growth in international medical graduates. New models of medical education have evolved including graduate entry programs and the uptake of problem-based learning as the dominant paradigm. This has been complemented by the Rural Clinical Schools program that has expanded the locations and settings for delivery of medical education. These changes impact on the cost structure of medical education and most have occurred since the early 1990s development of the Relative Funding Model that established funding relativities under the Base Funding Grant.
- Medical Deans has examined three measures that illustrate the relative shortfall in government funding of Australian medical education.
 - First, government funding of New Zealand medical students is, on average, about 50% higher than for Australian medical students, while government funding of medical education in Canada and England is between three and four times the Australian rate.
 - Second, fees charged to full-fee paying international medical students in Australian universities are about 80% more than the total revenue (government and student contributions) available under the Base Grant for students in Commonwealth-supported places.
 - Third, expenditure data from a sample of Australian medical schools indicates that they are spending about 85% more on teaching and learning than is currently received through the Base Grant.
- Accordingly, Medical Deans is recommending that the funding baseline for the Australian Government's contribution towards the cost of medical education needs to be increased by at least 50%. Medical Deans believes that this level of investment is required to recognise the changes to cost structures that have occurred since the early 1990s, to return the funding of Australian medical schools to internationally competitive rates, and to redress the historical lack of adequate indexation by the Australian Government.
- Medical Deans is also concerned about the affordability of medical education with increasing student contributions and high levels of part-time employment incompatible with the demanding course load and study requirements of a medical education. Medical Deans believes that the guiding principle should be that the level of student contributions should not compromise the ability of medical students to successfully undertake their studies.
- Medical Deans believes that Base Funding arrangements should reflect the vital importance of ensuring that teaching of medical students occurs in a research-active environment. Funding should also encourage diversity in the student population. However, funding should not be directly linked to student participation or satisfaction measures, as there is evidence that such measures do not necessarily correlate with the acquisition of medical knowledge and competencies.

- Work integrated learning is the cornerstone of Australian medical education. However, the funding of clinical education in medicine is at a tipping point:
 - New funding from Health Workforce Australia only provides a partial contribution towards the costs of new clinical placements after 2009; it does not cover the costs associated with the doubling of medical students since 2000.
 - Pro bono teaching is being eroded due to demographic, cultural and funding pressures; it represents a potentially significant hidden cost that is yet to be included in the cost structure or funding model of higher education.
 - The Rural Clinical Schools program provides a good example of the high quality outcomes that can be achieved with sufficient investment in medical education; this will need ongoing investment to sustain clinical education in rural Australia.
- Medical Deans believes that the overwhelming centrality of clinical training in medical education means that medicine should be recognised as a high cost cluster in future funding arrangements. There would also be value in examining how to rationalise the current patchwork of funding arrangements that underpin clinical education to improve transparency and understanding of the real costs of medical education.
- Medical Deans is committed to ensuring that medical schools provide ongoing leadership in reforming and improving the quality of medical education into the future. This requires a sustainable funding model so that Australian medical schools can continue to provide excellence in medical education.

1. Introduction

Medical Deans Australia and New Zealand (Medical Deans) welcomes the opportunity to make a submission to the Australian Government's Base Funding Review (the Review).

Medical Deans is well placed to respond to the Panel's request for evidence-based data and advice on the Review's consultation questions and Terms of Reference. In particular, this submission is informed by the resources of, and studies undertaken by, Medical Deans in three major areas of direct relevance to the Review, namely:

1. **The Medical Schools Outcomes Database (MSOD):** Since 2006 Medical Deans has led the development of a national database to inform medical education and workforce planning. With funding from the Australian Government's Department of Health and Ageing (DOHA), medical schools in Australia and New Zealand have established a national minimum dataset that provides a comprehensive resource for research and planning on the medical workforce. It provides the opportunity for longitudinal tracking on the outcomes of medical education programs. For this Review, the MSOD has been analysed to provide evidence on the scope and extent of work integrated learning in medical undergraduate programs. This draws on national data on clinical placements for virtually all medical students from 2006 onwards, including information on the location, duration, type, infrastructure and resourcing of clinical placements.
2. **The Benchmarking Project:** In 2010 Medical Deans commenced a project to better understand cost drivers, revenue sources and the structure of medical education through the creation of a definitive set of data comparing profiles on teaching and research activities, expenditure and funding across all medical schools. While this project is still underway, Medical Deans has taken the opportunity afforded by the Review to undertake a preliminary analysis of data on the expenditure and funding profiles of medical schools. The Benchmarking Project has also been used to further inform our advice on the course load requirements of medical education.
3. **National Clinical Training Review:** In 2007 Medical Deans was commissioned by the Australian Government Department of Health and Ageing to undertake a national review of clinical training in Australian medical schools.¹ This Review analysed the capacity challenges associated with the rapid growth in medical schools and the impact on the provision of quality, clinical training for medical students. The findings and recommendations of the National Clinical Training Review have been used in responding to the Base Funding Review's focus on the factors contributing to quality in the higher education sector.

Other authoritative sources of evidence that have contributed to this submission include:

- **The Australian Medical Education Study (AMES):** This comprehensive, empirical study of the quality of Australian medical education was conducted in the mid-2000s. It involved identification of the evidence on five key factors in medical education: student selection, course content, teaching methodologies or pedagogies, clinical education and assessment. AMES comprised: several systematic literature reviews; qualitative and quantitative surveys

of medical students, junior doctors and clinical educators/employers; interviews with deans of medical schools; focus groups and interviews with medical students, recent medical graduates, employers and clinical educators; and case studies of interns.² The findings of these studies have been used to inform our advice on the quality of medical education for this Review.

- **Evaluation of the University Departments of Rural Health Program and the Rural Clinical Schools Program:** This 2008 evaluation examines the effectiveness of these programs in improving access to, and quality of, medical education in rural Australia.³ This evaluation has helped shape our advice on the structure and sustainability of funding models across the health and education sectors that support medical education.
- **Australian Medical Council Accreditation Reports:** The Australian Medical Council's (AMC) role of accrediting medical schools provides expert insight into areas of strength, but, also importantly for this Review, areas for improvement. This has informed our views on the elements of high quality medical education that will be required in the future to ensure a sustainable health system and a high quality medical workforce.

This submission responds to selected questions identified by the Review on which Medical Deans has particular expertise. It is expected that universities will also make submissions responding to some of the broader questions raised by the Review.

After examining the changing environment of Australian medical education (Chapter 2), the remainder of this submission is organised into four chapters, each of which provides advice on one or more of the Review's consultation questions (clearly identified in highlighted boxes in each chapter).

Chapter 3 examines aspects of the relationship between funding and quality outcomes in medical education. This includes responding to the Review questions on quality benchmarks, as well as presenting evidence on the quality of Australian medical education.

Chapter 4 considers issues relating to the capacity of medical students to contribute towards the cost of their education. This includes data on medical student course loads, the employment status of Australian students and affordability of current rates of student contribution payments.

Chapter 5 analyses issues relating to funding relativities and the costs of specific elements associated with medical education. Evidence is presented on benchmarks (international funding rates of medical education, fees charged to full-fee paying students and current expenditure by Australian medical schools) to develop a recommendation on a new baseline for funding of Australian medical schools.

Finally, Chapter 6 examines the significant issue of the role of work integrated learning in medical education. Data are presented on the scope and magnitude of clinical placements, together with an examination of existing funding arrangements for clinical education. Areas of future reform are highlighted that will need new investment in medical education.

2. The changing environment of medical education

Medical education has changed dramatically since the Relative Funding Model (that formed the basis of the clusters and funding relativities under the Base Funding Grant) was originally developed in the early 1990s.

Outlined below are some of the most significant changes, each of which potentially impacts on either the absolute level of required investment in medical education or the cost of medical education relative to other tertiary disciplines that receive Commonwealth funding support.

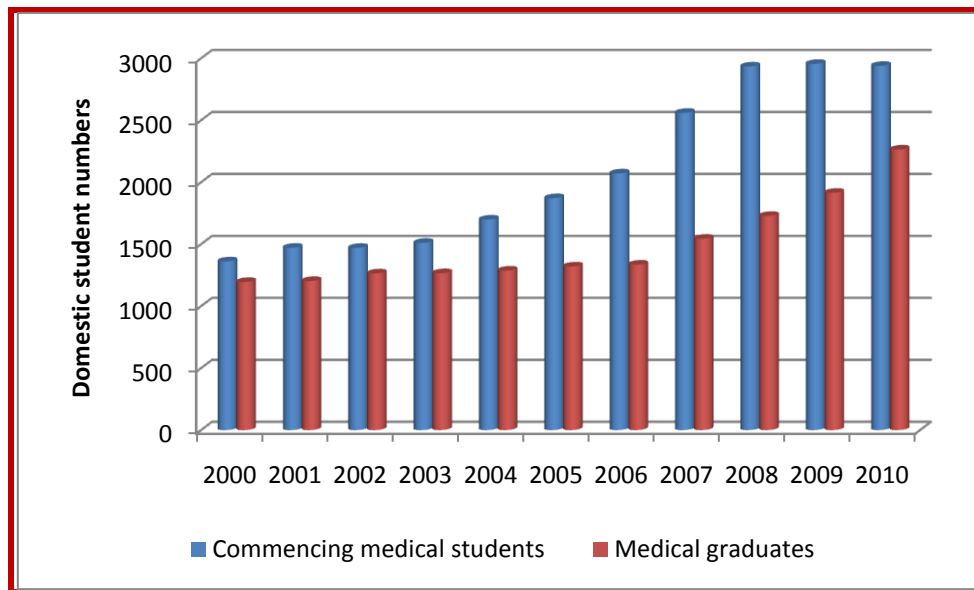
2.1 *Expansion of medical school capacity*

Medical schools have responded to major shifts by governments in medical workforce planning over the past decades.⁴ Until the early 1970s there were just eight medical schools in Australia, compared to the 18 that exist today. New medical schools were established (the University of Newcastle and Flinders University) in the expansionary period following the 1973 Karmel report. While the Doherty report in 1988 largely recommended a steady-state situation, the 1990s witnessed efforts by governments to contract the size of the medical workforce, with the 1995 Commonwealth Budget proposing reductions in medical school intakes from about 1,200 to 1,000 students annually.

Against this background, the past decade has seen an unparalleled expansion in medical school capacity with the establishment of nine new medical schools and the growth in Commonwealth supported places for medical students in existing schools. The nine new medical schools were established at James Cook University (2000), Australian National University (2004), University of Notre Dame WA (2005), Griffith University (2005), Bond University (2005), University of Western Sydney (2007), Wollongong University (2007), Deakin University (2008) and University of Notre Dame Sydney (2008).

Figure 1 shows the growth in domestic commencing medical students and graduates from 2000 onwards. It indicates that while there has been a 60% growth in medical graduates over the decade, the growth in commencing medical students has been even larger (116%). This two-fold plus increase in commencing medical students is yet to feed through fully to the number of medical graduates. Figure 1 shows that the highest rates of growth in commencing medical students occurred between 2003 and 2008, with a staggering increase of almost 500 extra students (24% annual growth) in 2007 alone.

Figure 1: Domestic medical students, Australian universities, 2000-2010



Source: Medical Deans

Note: For 2010 the number of graduates is a preliminary projection.

This growth in numbers does not fully convey the underlying complexity and impact on cost structures of medical schools. Growth was achieved through multiple strategies including: the establishment of new medical schools; the expansion of capacity and infrastructure at existing schools; and the establishment of new campuses and teaching locations. One major contributor to this last change was the establishment of the Rural Clinical Schools (RCS) program in 2000 (discussed further in Section 3.2.2). While governments provided funding for the establishment of new medical schools, the expansion of capacity at established medical schools occurred within existing recurrent funding arrangements, without additional funding required to expand staffing, infrastructure and other capacity-limiting factors.

A 2010 report commissioned by Universities Australia identified some of the issues associated with funding inadequacies, including where funding is essentially covering only the marginal cost of services.⁵ This report identified that universities have achieved considerable productivity savings through the consolidation of academic programs and courses, reductions in administrative staff and substantial increases in student to staff ratios. This has been driven by the absence of adequate growth and indexation in Commonwealth funding support for teaching and learning (see Section 5.1). From the perspective of medical schools, the doubling in growth of capacity over the past decade is not sustainable in a funding model where the Commonwealth's funding model represents marginal, rather than average, costs.

2.2 New medical programs and pedagogies

An equally significant shift (in terms of its impact on the costs of medical education) has been the emergence of new medical degrees and models for undergraduate medical education, together with the complete transformation of approaches to teaching and learning in medical curricula. Some of these developments were given greater impetus by the green-field opportunity afforded through the establishment of new medical schools.

Table 1 illustrates the diversity in the medical undergraduate programs currently being offered through Australian medical schools, comprising a mix of school leaver entry and graduate entry programs. (In addition to this change in undergraduate programs, there is the more recent emergence of postgraduate courses such as the Melbourne Model). Most of the development of these new programs has occurred subsequent to the 1990 determination of the Relative Funding Model. New models of undergraduate medical education have required substantial investment by universities, involving major changes not only to course content, but to student entry and selection processes, the mix and skills of teaching staff and the range of assessment methods.

Table 1: Medical degrees and course duration, Australian universities, 2011

School leaver entry ¹	Course duration (years)	Graduate entry	Course duration (years)
Bond University ²	4.8	Australian National University	4
James Cook University	6	Deakin University	4
Monash University	5	Flinders University	4
Newcastle/University of New England ³	5	Griffith University	4
University of Adelaide	6	Monash University (Gippsland)	4
University of New South Wales	6	Notre Dame Sydney	4
University of Tasmania	5	Notre Dame Western Australia	4
University of Western Australia	6	University of Melbourne ⁴	4
University of Western Sydney	5	University of Queensland	4
		University of Sydney	4
		University of Western Australia	4.5
		University of Wollongong	4

Source: Medical Deans

Notes: 1. Most school-leaver entry programs take students who may have an undergraduate degree.

2. Bond University operates a three-term year with medical students commencing in second semester (May).

3. Joint Medical Program with University of New England.

4. The University of Melbourne degree is an MD at masters level.

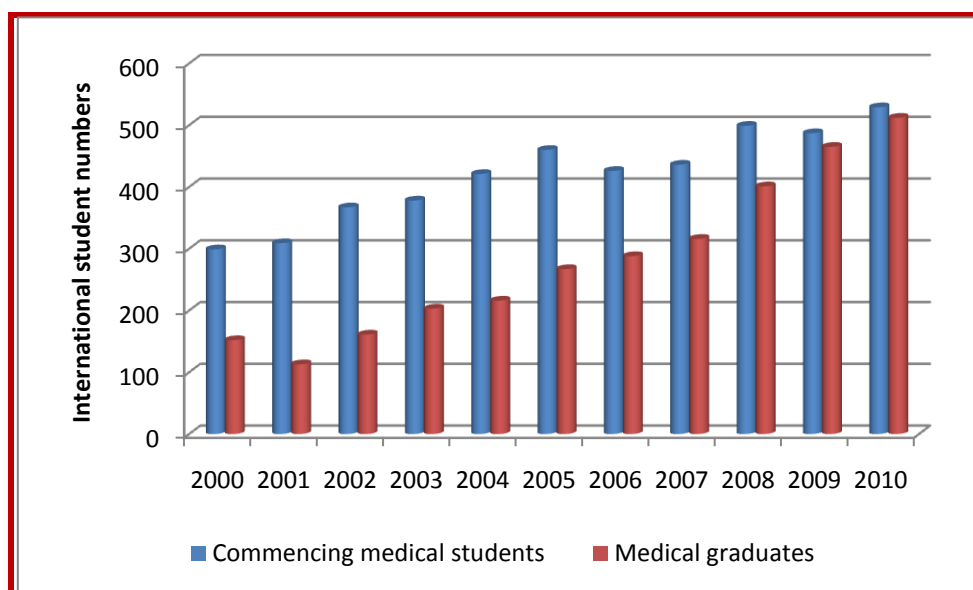
Concurrently, there has been accelerated development and reform of teaching approaches to incorporate a much stronger focus on approaches such as problem-based learning (PBL). Originating at McMaster University in Canada in 1968⁶, PBL was first introduced in Australia in 1978 at the University of Newcastle.⁷ However, it was not until the late 1990s and in particular, with the emergence of graduate-entry medical programs (initially at Flinders University, University of Sydney and University of Queensland), that there was a major shift in emphasis with PBL becoming the dominant paradigm in medical education. As PBL involves a much stronger focus on learning through small groups, it has major implications for the staffing and resourcing of medical education.

The development of new pedagogies has also been accompanied by an increasing interest in evaluating the effectiveness of approaches to medical education. An outcome has been the establishment in most Australian universities of units focussing specifically on medical education and its evaluation.

2.3 The market in international medical students

Changes to higher education funding and fees policy over the past decade have resulted in significant growth in enrolment of international medical students in Australian universities (see Figure 2). There has been a three-fold growth in international medical graduates, up from 152 in 2000 to 465 in 2009. The number of international commencing medical students has also risen steadily in most years (falling in 2006 and 2007), with the highest intake of 529 commencing students occurring in 2010.

Figure 2: International medical students, Australian universities, 2000-2010



Source: Medical Deans

Note: For 2010 the number of graduates is a preliminary projection.

However, Universities Australia has warned of the ‘perfect storm’ of factors affecting demand from international students to study in Australian educational institutions. These include: the strength of the Australian \$, reputational damage flowing from attacks on international students, the collapse of some private colleges, strong competition for students from other countries, and changes to student visas and skilled migration policies.⁸

For international medical students, there are also growing concerns related to the difficulty in securing intern places. The 2010 Joint Statement on medical training defined the magnitude of the challenge in ramping up intern places to meet the substantial expansion in medical school numbers (arising from growth in both domestic and international students).⁹ It identified that in 2009 there were 2,243 intern places available, well short of the more than 3,700 places required to meet the projected requirements for domestic and international graduates in 2014. At current rates of expansion of intern places, it is estimated that there will only be 3,200 positions available in 2014. It is worth highlighting that this shortfall in intern places is at odds with Health Ministers’ views on the educational importance of the internship:

“Ministers strongly acknowledged their commitment to provide all Australian medical and nursing graduates with an intern place to allow them to complete their training.”¹⁰

The Australian Medical Students' Association has also expressed concern about the lack of security in accessing internships for international students graduating from Australian medical schools. Information targeted at potential international medical students is alerting them to this capacity constraint and advising them that students can opt to undertake clinical internships in their own countries. The move to graduate entry programs in medicine may also impact on the international student market, with these programs being potentially less attractive to the south-east Asian market. There are significant costs associated with the development of new markets for international students.

Reductions in international students could have a major financial impact on Australian higher education institutions, as well as eroding Australia's reputation as a high-quality, welcoming destination for university education. In 2009 the 200,000 international higher education students generated \$10.3 billion in export income, of which 35 per cent (\$3.7 billion) comprised fee revenue for Australian higher education institutions.¹¹

Drawing on work by IDP Australia, a 2010 study by the John Curtin Institute of Public Policy has undertaken projections for international enrolments and estimated the potential impact on the higher education sector. Depending on the magnitude and pattern of further declines in international students, Australian higher education institutions are at risk of cumulative fee revenue losses over 2011-2015 of between \$2.6 billion and \$7.0 billion.¹²

Medical Deans notes that international medical students generate a significant revenue stream. In 2009 international medical students accounted for about 15% of all commencing students. Preliminary data collected by Medical Deans as part of the Benchmarking Project indicated that revenue from international medical students was about \$89 million in 2009. The potential loss of some of this revenue stream makes it even more imperative that this Review leads to the Australian Government improving the sustainability of the Base Funding model.

2.4 Other changes influencing medical education and its funding

There have been other significant changes, some of which are still flowing through to impact on the cost structure of medical education. Most of these changes are examined as part of directly responding to the Review Consultation Paper questions in the next four chapters of this submission. Other significant changes include:

- The establishment of Rural Clinical Schools from 2000 onwards (see Section 3.2.2);
- The recent establishment of Health Workforce Australia and new approaches to funding of clinical placements (see Section 6.2.1); and
- The expansion in clinical training (work integrated learning) which is now occurring earlier in the medical undergraduate degree, with a shift to clinical training in a much wider range of community-based settings (see Section 6).

In summary, medical education has experienced quantum shifts over the past two decades, with other substantial reforms still being implemented. Very few of these reforms were in place, or even envisaged, during the early 1990s design of the Relative Funding Model and the establishment of discipline-based funding clusters.

3. The relationship between funding and quality outcomes in medical education

Q2.1 What are the best international measures of course quality that would provide appropriate benchmarks to inform judgements about the appropriate level of base funding for Australian universities?

Q2.2 What are the best international measures of student engagement that would provide appropriate benchmarks to inform judgements about the appropriate level of base funding for Australian universities?

Q2.4 What is the connection between the level of base funding and quality outcomes?

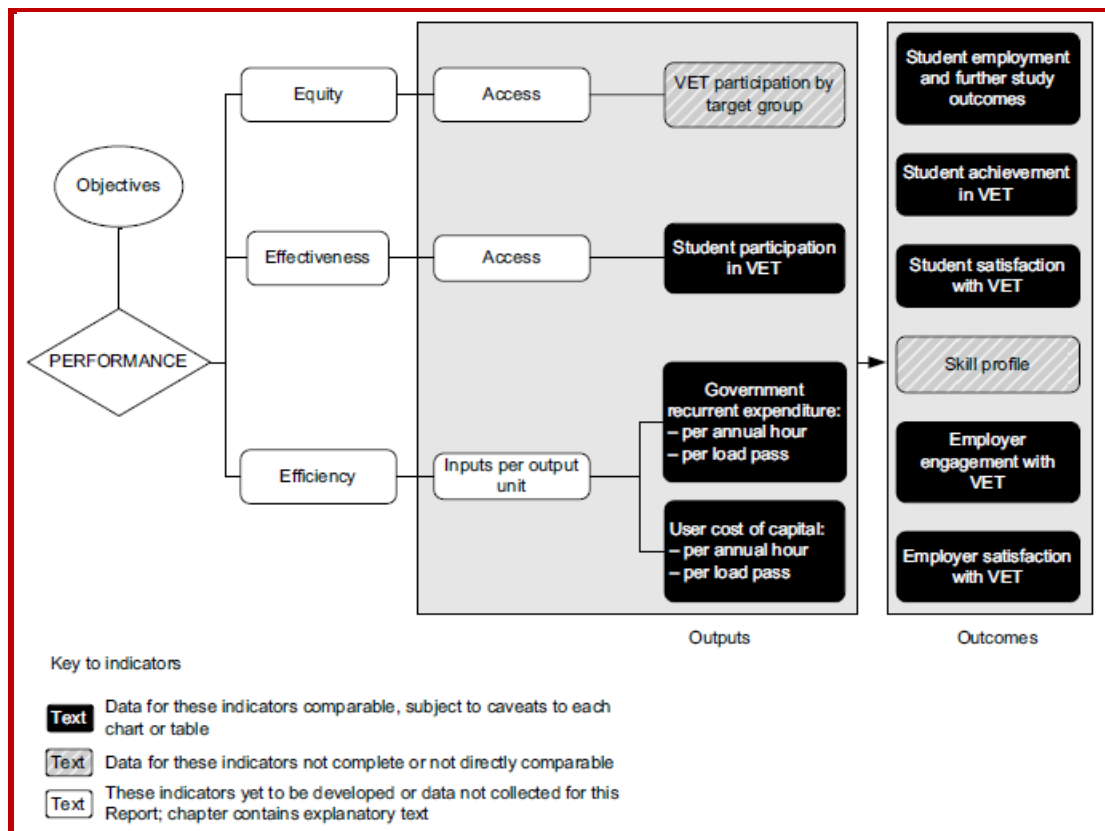
This chapter is organised into two sections. Section 3.1 examines the Review's specific questions on benchmarks and how they might inform the level of base funding (Q2.1 and 2.2). Section 3.2 examines the broad relationship between quality and funding (Q2.4); this important issue is considered further in Chapter 6 in the context of examining clinical education and how to sustain and improve the quality of medical education into the future.

3.1 *Benchmarks and the quality of higher education*

Medical Deans believes that it is important to adopt a comprehensive and transparent performance framework on the expected outcomes of higher education including medical education. Such a framework then allows consideration of the adequacy of particular benchmarks (such as course quality and student engagement), including whether they are measuring the most important outcomes of medical education.

The performance framework used by the Productivity Commission for vocational education and training services (see Figure 3) illustrates this concept.¹³ It indicates the distinction between output measures (such as student participation) and outcome measures (such as student employment). However this framework does not distinguish sufficiently between short-term and long-term outcomes, treating short-term outcomes such as student satisfaction as equivalent to long-term outcomes such as student employment.

Figure 3: Performance framework for vocational education and training services



Source: Productivity Commission 2011, Report on Government Services 2011, Figure 5.4, pg 5.13.

One of the most widely used frameworks in evaluating the impact of educational programs identifies four tiers of outcomes comprising reaction (Level 1), learning (Level 2), behaviour (Level 3) and results (Level 4).¹⁴ This framework was used to guide a systematic review of the literature on the effectiveness of clinical education in undergraduate medicine as part of the AMES study in 2006.¹⁵ As the findings of this study are directly relevant to the issue of using benchmarks to inform judgements about funding levels, the key features of the AMES literature review are summarised below.

- A total of 89 studies were identified that related to the effectiveness of undergraduate medical education, mainly occurring in the US (53%) and the UK (13%);
- Most of the studies assessed different models of learning (86%) and/or educational effectiveness (73%);
- The vast majority of identified studies focussed on short-term outcomes of medical education (i.e. Level 1 or 2 using the four-level framework), with the breakdown of studies as follows:
 - Level 1: 56 studies (63%) examined student satisfaction and perceptions of the educational experience;
 - Level 2: 64 studies (72%) assessed changes in knowledge, attitudes or skills;
 - Level 1 & 2: 37 studies (41%) examined a combination of learning and reaction outcomes; and

- Level 3 or 4: only 9 studies (10%) assessed outcomes in terms of behavioural changes or results.

From the perspective of the Review, there are two important findings related to potential decisions to link funding levels to specific benchmarks. First, the systematic review found that student confidence or student satisfaction levels do not always correlate with demonstrated competence or knowledge acquisition. This finding was duplicated in the qualitative interview studies and focus groups that were also conducted as part of the AMES study. While “interns perceived themselves to be generally well prepared for their role”, their perceptions on preparedness shifted on commencing work as they were required to develop additional competencies.¹⁶ Levels of satisfaction with medical education also differed markedly between medical students (79%), junior doctors (87%) and clinical educators (48%)¹⁷

Second, the AMES study identified that there is a paucity of research on the longer-term outcomes of medical education (Levels 3 and 4). This includes the extent to which there is an effective transfer of learning to the workplace and the impact of different approaches to medical education on the care received by patients.

Given the lack of a clear relationship between student satisfaction and the acquisition of knowledge and competencies, Medical Deans suggests that it would be premature to determine base funding levels on the basis of commonly available measures such as the Australasian Survey of Student Engagement (AUSSE) or the Course Experience Questionnaire (CEQ). Moreover, these types of measures are very much indirect proxy measures of the ultimate outcome being sought – well-qualified doctors who demonstrate the requisite skills and competencies in a health care setting.

However, Medical Deans recognises the long-term value in developing a stronger association between the level of government financial support provided to universities and the level of achievement of quality outcomes for learning and teaching. Progress towards this objective requires agreement on a well-specified outcomes framework for learning and teaching, together with support for research to evaluate the long-term effectiveness of different models of undergraduate education, different pedagogies and other factors influencing the quality of medical education.

3.2 Funding levels and the quality of higher education

At the core of this Review is the issue of the relationship between the level of Base Funding and the quality of higher education. While the quality-funding relationship may not be directly amenable to empirical analysis, this section contributes two elements to tackling this question, namely:

- What do we know about the current quality of undergraduate medical education?; and
- Is there an example of best practice in relation to a well-funded quality medical education program?

3.2.1 Quality of medical education

The quality of Australian medical education, and the resulting medical workforce, is highly regarded. Australian medical schools are well respected internationally, with graduates of these schools performing well in the US Medical Licensing Exam and being consistently successful in winning

postgraduate positions in prestigious universities and research facilities in other countries. The high calibre of the Australian health workforce was recognised by the National Health and Hospitals Reform Commission in its major review of the Australian health system as follows:

“We believe that our health system should seek to optimise the dedication, diversity, energy and dynamism of our health workforce. Australia has a world-class approach to the education and training of this workforce. The people who care for and treat us comprise one of the major strengths of our health system. Our health workforce is responsible for the enviably high standard of health care that we enjoy in Australia. They are key agents of change, reform and innovation, driving continuous improvement in the delivery of health services at the coalface.”¹⁸

Returning to the Australian Medical Education Study, Table 2 is a highly summarised extract of the AMES findings most relevant to this Review and their implications for the quality and funding of medical education. The AMES study identified significant challenges with access to high quality clinical education and its funding; the need to expand and adequately fund work integrated learning; and the variable access to simulation and computer assisted learning. In each of these areas, the quality of medical education could be improved through additional investment.

3.2.2 Rural Clinical Schools: An example of best practice in funding medical education

Medical Deans believes that the Rural Clinical Schools program has been one of the most important developments in Australian medical education over the past decade. The significant investment by the Department of Health and Ageing in this program has resulted in ongoing positive outcomes including: raising the profile of student learning in rural environments; encouraging rural practice; and engaging rural practitioners.

While universities had established regional medical training placement programs prior to the RCS, the RCS program was groundbreaking in its scale and scope. The 2008 evaluation¹⁹ of this program outlined the broad parameters and some of the positive impacts of this program including:

- **The rapid expansion of clinical education into rural areas:** 10 rural clinical schools were established between 2000-2001 and another four were launched in 2006-2007;
- **The evolution of alternative models for clinical education:** A number of alternative models to the traditional model of clinical education (historically involving 6 or 12 week blocks for the teaching of separate clinical disciplines) have been developed. Many rural clinical schools provide an integrated teaching program that involves the disciplines being integrated across the whole year’s curriculum. Students can undertake this integrated clinical education in community settings, rather than hospital settings;
- **Shared utilisation of local facilities and expertise and community collaboration:** The RCS program has been based on support for collaborative arrangements with local communities, state health departments and other local tertiary institutions. The rural clinical schools have been the vehicle for bringing these stakeholders together in ways that have not been standard practice in established medical schools in metropolitan areas; and

Table 2: Quality medical education – issues arising from the AMES reports²⁰

Issue	Evidence from the AMES study	Implications for the Base Funding Review
Clinical education	<p>Access to high quality clinical education was “the most significant concrete challenge” facing Australian medical education. Specific challenges include:</p> <ul style="list-style-type: none"> • Ensuring adequate and depth and breadth of clinical exposure for undergraduate students in context of growth in student numbers; • Declining access to patients in the public health system (including patients being more acute, with many patients treated in other settings); • Resourcing the support, time and funding for practising doctors to take on teaching and mentoring roles; and • Recognising the need for training, recognition and remuneration for clinical educators 	<p>The dominant role of clinical education (effectively, work integrated learning) in medical education needs to be adequately resourced.</p>
Settings for work-integrated learning	<p>“Research has consistently shown that work-related patient-based experience is more frequent and of longer duration in district, community or other non-teaching/non-affiliated hospital settings, and is in general better rated by students”.</p> <p>This finding is consistent with other evidence from the AMES study (including interviews with Medical Deans) that clinical teaching opportunities are being reduced in teaching hospitals due to patient care demands.</p>	<p>There is inadequate funding to expand clinical teaching to a broader range of community settings outside the teaching hospital environment.</p>
Funding for clinical education	<p>“There is considerable opacity about the mechanisms of, and the volume of funding for, clinical education. The funds at universities’ disposal to support this are minimal as a proportion of total service-oriented clinical budget”. Only half of clinical educators and employers are satisfied with the level of university support.</p> <p>The historical pro bono model of clinical education “is clearly under stress in some sectors, especially where private and public systems rub shoulders in the educational milieu”. Some clinical educators indicated that they would not continue to provide clinical teaching on an unpaid basis.</p>	<p>Subsequent to the AMES study, the funding of clinical education has become even more fragmented. Further changes have included the establishment of Health Workforce Australia and its partial funding of some clinical placements. In addition, some public hospitals have introduced facility and other charging of universities related to their role in clinical teaching.</p>
Simulation and computer assisted learning	<p>There is highly variable access to simulation across medical schools, but it is generally under-used. This occurred in the context where simulation and clinical skills laboratories were rated extremely highly as effective teaching methods.</p>	<p>Investment in new modes of teaching and learning needs to be consistently supported and funded.</p>

Source: AMES reports

- **Positive clinical placement experiences of students:** Students were generally positive about getting better patient access, enhanced involvement with general practice and much more exposure to inter-professional practice. (There were, however, some concerns about the availability of teaching opportunities in some core areas such as oncology or cardiology).

The evaluation also identified some funding issues with important implications for the Base Funding Review including:

*“While the expansion of clinical education into ‘alternative teaching settings’ has been enabled in rural settings by the RCS program, **there has been no such funding program available for metropolitan clinical schools.** As a result, rural clinical schools are at the forefront of this developing area of medical education.” (pg 63, emphasis added).*

*“RCSs do not operate with the economies of scale which metropolitan clinical schools enjoy. **Without ongoing Federal funding, universities would need to significantly downsize (or in some cases dismantle) their rural clinical programs** and revert to running short term placements only.” (pg 66, emphasis added).*

*“The RCS has made **a significant investment** in rural health through the development of infrastructure, including assisting rural hospitals, clinics and GP surgeries where required **to build the facilities necessary to undertake clinical training.**” (pg 73, emphasis added)*

In summary, the Evaluation found that the RCS funding level (and its provision as a separate funding stream through the Department of Health and Ageing) was one of the key factors contributing to the program’s success. The level of funding supported the establishment of “excellent physical resources (including teaching facilities, office space and start-of-the-art information and communication technology) and human capital” (pg 85). Medical Deans welcomed the Australian Government’s continuing support for the Rural Clinical Schools program, following the government’s endorsement of most of the evaluation’s recommendations. The level of funding through the RCS program represents a realistic recognition of the actual costs of delivering medical education in rural and remote locations. Medical Deans believes that the RCS program provides a case study of the positive and high quality outcomes that can be achieved with sufficient investment in medical education.

4. The capacity of medical students to contribute towards education costs

Q5.1 Are there general principles that should determine the maximum contribution a student should make towards the cost of their education in a publicly funded higher education system?

In responding to this critical question of student contributions, Medical Deans has liaised with, and is pleased to incorporate the views of, the Australian Medical Students' Association (AMSA). Further detail of AMSA's position is included as a separate submission to the Review.

4.1 Student contributions in Australia and other countries

Relative to OECD countries, Australia universities already depend relatively heavily on private funding including student contributions.²¹ In 2007 the share of public expenditure of Australian universities was 44.3%, compared to the OECD average of 69.1%. While the public share of funding was lower in the UK (35.8%), it was considerably higher in both Canada (56.6%) and New Zealand (65.7%). As will be discussed later (see Section 5.1.1), the level of public funding of New Zealand universities has grown more rapidly than private funding (including student contributions) over the past decade. The opposite trend is occurring in Australia, with the share of public funding declining from 49.6% in 2000 to 44.3% in 2007. Students are meeting a growing share of the costs of their university education.

4.2 Trends in student contributions for medical students in Australian universities

This trend of increasing student contributions as a share of total university funding for teaching was confirmed in the Review Background Paper (Figure 3.3). On a per capita basis, the Commonwealth contribution (Operating Grant or Commonwealth Grant Scheme) declined steadily in real terms between 1994 and 2005, with real growth only occurring since 2005. This reduction in Commonwealth funding was partially compensated through higher growth in per capita student contributions.

Table 3 shows changes in the mix of government funding and student contributions specifically for medical students between 2007 and 2011. Over this period, the Commonwealth contribution increased by 25%, while for pre-2005 HECS students (subject to grandfathering arrangements) the student contribution levels notionally increased by 36%. In 2011 medical students are contributing almost one-third of base funding available to universities for their education.

Table 3: Commonwealth and student contribution levels for medical students, 2007-2011

Year	Commonwealth contribution (\$)	Student contribution (\$)	Total \$	Student contribution as % total
2007	15,638	6,665 ¹	22,303	29.9%
2007	15,638	8,333 ¹	23,971	34.7%
2008	18,227	6,798 ²	25,025	27.2%
2008	18,227	8,499 ²	26,726	31.8%
2009	18,610	8,677	27,287	31.8%
2010	19,235	8,859	28,094	31.5%
2011	19,542	9,080	28,622	31.7%

Source: Department of Education, Employment & Workplace Relations, Indexed rates, at: <http://www.deewr.gov.au/highereducation/resources/pages/studentadministrators.aspx>

Notes:

1. In 2007 student contributions varied according to whether students were covered by grandfathering arrangements in the *Higher Education Support (Transitional Provisions and Consequential Amendments) Act 2003*.
2. Similar grandfathering arrangements applied in 2008 as a result of the application of savings provisions in the *Higher Education Legislation Amendment (2007 Budget Measures) Act 2007*.

4.3 Employment, course loads and affordability for medical students

According to the Review Background Paper, it is estimated that \$2.433 billion of student contributions will be made as deferred payments through HECS-HELP in 2010 (77.7%). The remaining payments comprise: \$499 million (15.9%) paid up-front by students eligible for the HECS-HELP discount; \$125 million paid by the Australian Government for the HECS-HELP discount (4%) and \$75 million paid up-front by permanent visa holders and New Zealand citizens not eligible for the discount (2.4%). In other words, almost one-quarter of all student funding contributions are made via up-front payments to take advantage of the discounted rate.

Review of Department of Employment, Education and Workplace trend data on liabilities indicates a slight increase in the share of student contribution payments that are being deferred, up from 77% in 2004 to 79% in 2008. For students in the 'health' discipline, the share of deferred payments has increased from 76% in 2004 to 78% in 2008.²²

High levels of up-front payment are likely to require either parental support and/or participation in paid employment by university students. Data from the 2009 AUSSE Report indicates very high levels of participation in, and intensity of, paid employment by students²³. Of students classified as 'full-time on campus' (i.e. not distance learning), just over two-thirds (69%) were employed in paid work. This comprised 13.1 hours of paid work off-campus and 1.3 hours of paid work on campus (the equivalent of two days/week in paid employment).

Medical Deans does not believe that this level of part-time employment is compatible with course load and study requirements of medical students.

In particular, the AUSSE report indicates that, on average, full-time students spend just over nine hours/week in class, 17 hours/week on campus and almost 11 hours studying and preparing for class.²⁴ While the AUSSE report does not publish disaggregated data on paid employment or university course-related activities by discipline, the Medical Deans Benchmarking Project has collected data on course requirements for Australian medical schools. In 2009 the average teaching course workload was about 34 weeks for medical students enrolled in school leaver entry medical degrees and about 38 weeks for students enrolled in graduate entry medical degrees. As noted previously in our submission to the Bradley Review, the clinical years of medical qualifications are significantly longer than standard university years: they range from 36-44 weeks (18-22 week semesters), compared with 26 weeks (13 week semesters) for most other courses.²⁵ Study requirements outside these formal course loads are likely to be similarly disproportionately high relative to other students.

AMSA has also highlighted the 'indirect costs' experienced by medical students, over and above student contributions. For example, students undertaking rural clinical placements will frequently have significant travel expenses, accommodation and living expenses. While the Rural Clinical Schools program supports universities in meeting some of these costs, students may still incur

incidental living and petrol expenses. With the trend towards clinical placements being offered in an expanded range of settings and geographic locations, medical students face higher costs including actual travel time and travel expenses.

Increasing debt levels associated with continued growth in student contributions may also create pressure driving medical graduates towards 'high income' specialties. Such a shift is not consistent with the policy objectives of the Australian Government to create a primary health care centred health system.²⁶

4.4 Principles determining future levels of student contributions

Medical students face the dilemma of high (and increasing) levels of student contributions and heavy course load requirements (particularly in the clinical years) that do not provide much opportunity to undertake paid employment. Medical Deans supports the position of AMSA that the costs of tertiary education should not pose a financial barrier to medical students. This principle is also an important underpinning of ensuring that the Australian Government's commitment to promoting diversity in participation in the higher education sector is able to be achieved. The existing high levels of student contributions are likely to be a barrier to some students from low socio-economic backgrounds.

While Medical Deans is not able to nominate an optimal % share or \$ amount of student contributions payable by medical students, the general principle advanced is that the level of student contributions should not compromise the ability of medical students to participate in, and successfully complete, their undergraduate degree. The above analysis suggests this principle is currently at risk and we, therefore, argue against any increase in real \$ contribution by students. In other words, additional growth in funding to support ongoing quality improvements in higher education should be derived preferentially through growth in the CGS, rather than further growth in student contributions.

5. Government funding and the costs of medical education

This chapter responds to various questions raised in the Review Consultation Paper relating to base funding and the cost of different elements of medical education.

5.1 *Funding relativities for medical education*

Q3.1 Do the current funding relativities reflect the relative cost of delivering undergraduate courses in particular disciplines? Why, if any, relative weightings should be afforded to various discipline groups and why?

Medical Deans notes that the current funding relativities across clusters date back to the 1990 establishment of the Relative Funding Model and that the clusters were developed in the context of redistributing an available envelope of funding across universities. While the Review Background Paper indicates that ‘relative funding is not the same as ensuring that the funding for a discipline captures the actual cost’, it also documents the real decline in Commonwealth funding support for the higher education sector over time.

Key issues that are relevant to the identification and establishment of both relative and absolute base funding levels under the current Review include:

- **Decline in Commonwealth funding on a per capita basis:** Most of the increase in Commonwealth funding support for the higher education sector has, until quite recently, been associated with growth in student numbers. Although the Commonwealth has increased its absolute funding contribution to meet the planned growth in student enrolment, its funding contribution has failed to keep pace with inflation. In real terms, Commonwealth funding for each supported place has declined. In 2010 the Commonwealth is paying less per higher education student in real terms than it did in 1989, two decades ago.
- **Lack of Commonwealth funding for indexation and actual cost growth:** Universities have had to meet a relatively greater share of the real costs of higher education, with student contributions also increasing relative to government funding support (as discussed in Chapter 4). Universities have had to self-fund the gap between Commonwealth funding and indexation levels, and the gap between general inflation and the actual cost growth in the higher education sector.
- **Declining international competitiveness of funding support:** As noted previously, the Australian Government’s funding share of the higher education sector is relatively low and considerably below the OECD average. In its response to the Bradley Review, the Australian Government indicated that its commissioning of this Base Funding Review would “ensure that funding levels remain internationally competitive and appropriate for the sector” (emphasis added).²⁷ As will be shown below, the level of the Australian Government’s funding support for universities (in particular, medical schools) has slipped well below that provided by governments in New Zealand, Canada and England. In relative terms, the funding of Australian medical schools is not internationally competitive.

Against this backdrop, data is presented below to illustrate the ‘relative funding gap’ in medical education that applies across at least two levels:

- The relative gap in government funding of medical education in Australia compared to New Zealand, Canada and England; and
- The growing relative gap between Australian Government funding of medical student places and the actual costs of funding medical education (using a series of measures to triangulate and measure the estimated quantum of these costs).

5.1.1 Government support for medical education in Australia and internationally

The comparator countries used in examining international competitiveness are New Zealand, Canada and England. As New Zealand medical schools are member organisations of Medical Deans, more detailed analysis is provided below on the funding of these schools.

Table 4 shows the disparity in funding levels for medical students in Australia and New Zealand. Government funding of New Zealand medical students is, on average, about 50 per cent higher than for Australian medical students (about \$29,500 versus \$19,500), despite students in both countries facing similar student contribution payments. Table 4 also illustrates that the New Zealand Government contributes a much higher share of total funding (76%) for its medical students than does the Australian Government (68%).

Table 4: Funding of government-supported medical students, Australia and New Zealand, 2011

	Government contribution (A\$)	Student contribution (A\$)	Total A\$	Student contribution as % of total
Australia	19,542	9,080	28,622	31.7%
New Zealand	26,651 (Years 2-3)	9,233	35,884	25.7%
	31,443 (Years 4-6)	9,233	40,666	22.7%
	29,526 (wtd average)	9,233	38,759	23.8%

Source: NZ rates are published by the New Zealand Tertiary Education Commission and have been converted to A\$. Rates are at: <http://www.tec.govt.nz/Documents/Ministerial%20determinations/Funding-Determination-Student-Achievement-Component-2011-12.pdf>

The substantial disparity in government funding levels of medical students largely reflects the New Zealand Government’s decision to significantly increase its funding contribution in 2007. Similar to Australia, New Zealand universities had experienced several decades of government funding that did not keep pace with inflation. The New Zealand Vice-Chancellor’s Committee estimated in 2004 that government funding per EFTS declined in real terms by 34.8% between 1980 and 2002.²⁸ In the mid 2000s New Zealand universities also experiencing marked declines in international enrolments (over 13%), which had reduced the universities’ ability to cross-subsidize in order to meet the shortfall in government funding. The two New Zealand medical schools (at the University of Auckland and the University of Otago) presented a case to government which resulted in an increase in excess of 50% in the government’s funding contribution for each medical student.

Turning to Canada and England, data on government funding of medical education were included in the Medical Deans’ 2008 submission to the Bradley Review. (These have been converted below to A\$ as at July 2008 and compared against Australian Government CGS rates in 2008).

- **Canada:** In 2008 Canadian government funding of students in new medical programs (not requiring major new infrastructure) ranged from \$A67,000 to \$A87,500 per student. (Student tuition fees were about \$A14,500 per annum.) This means that in 2008 Canadian Government funding of medical students was 270% to 380% higher than the Australian Government rate of \$A18,227 (see Table 3 for 2008 Australian rates).
- **England:** Funding from the English Government includes two streams: the Higher Education Funding Council and the Department of Health’s Service Increment for Teaching (which covers clinical training and infrastructure). In 2008 the English Government’s funding per medical student place was about \$A75,600, about 315% higher than the Australian Government rate of \$A18,227.

While international comparisons must always be treated with caution, these findings are broadly consistent with the earlier OECD data that indicated that the public share of higher education funding was much lower in Australia than in either Canada or New Zealand. Taken in combination, the data strongly suggest that Australian government funding of medical education is relatively low, both in absolute \$ terms and as a % of total funding available to medical schools, compared with New Zealand, England and Canada.

5.1.2 Full-fee paying medical students in Australian universities

Another approach in examining relativities is to consider the relativity between funding levels for Commonwealth-supported places and the actual cost of medical education in Australian universities. While the Australian Government must ultimately decide the level of its funding contribution, analysis of the costs of universities can indicate whether the level of funding for government supported places is reasonable and whether or not its funding is keeping pace with the cost growth experienced by universities.

One proxy for university costs is the fees charged to full-fee paying domestic and international students. Table 5 indicates that, in 2011, medical schools received, on average, about 80% more revenue per student for international full-fee paying students than for domestic students in Commonwealth supported places. (The revenue of \$28,622 available for domestic students in Commonwealth-supported places includes the government contribution and the student contribution).

Table 5: Revenue by type of medical student, Australian universities, 2011

Location	Student type	Revenue (\$)
All Australian universities	Commonwealth-supported domestic students	28,622
Selected Australian universities ¹	International fee-paying students	52,097
Bond University	Domestic full-fee paying students	60,411

Source: Data are from published 2011 fee schedules available on each university’s website.

1. Selected Australian universities comprise the ten universities with the highest volume (96%) of international medical students. The average weighted fee across these universities has been calculated on the basis of their international medical student EFTSLs.

Of course, fee setting is likely to reflect multiple factors including the cost structure of universities and medical schools, the perceived attractiveness and demand for an Australian medical education and the desire to set commercially sustainable rates. Nonetheless, the substantial disparity between

revenue streams for government-supported and other medical student places indicates likely under-investment by government in the costs of medical education for Australian students.

5.1.3 Benchmarking the expenditure of Australian medical schools

As mentioned in the Introduction, Medical Deans is currently undertaking a detailed benchmarking project across Australian and New Zealand medical schools.

Before outlining the preliminary findings of this project, it is important to articulate clearly the distinction between ‘funding’, ‘expenditure’ and the ‘costs’ of medical education. In referring to funding, this submission is using the term to mean ‘base funding’ comprising all elements of the Commonwealth Grant Scheme and student contributions. (Hence, medical education is currently ‘funded’ at \$28,622 for each Commonwealth supported domestic student, as shown in Table 5 above). Universities may supplement base funding with other revenue streams to meet the costs of teaching and learning that are in excess of the funded amount.

Turning to the distinction between ‘expenditure’ and ‘costs’, a 2007 Access Economics report commissioned by the Department of Education, Science and Training for the previous review on cost relativities defined the problem as follows:

“Institutions attempt to deliver a course of the best quality possible within the funding available. Using the historical amounts spent as the basis for determining future funding simply perpetuates historical relativities (becoming a ‘self-fulfilling prophecy’)...Using historical cost relativities to determine future funding relativities must be supplemented by other information on the extent of ‘cutting the cloth’ that has occurred in each discipline.”²⁹

Hence, current data on expenditure levels by universities is likely to underestimate the true costs of particular disciplines. Access Economics suggested that methods of breaking this inherent circularity between funding and expenditure levels to identify the real costs of teaching and learning included:

- Use of an arms-length commercial benchmark (such as a purely privately funded university);
- Overseas benchmarks; and
- A ‘clean sheet’ estimate of the resources required to teach each discipline to a similar high standard (a ‘bottom-up costing’).

This submission has already included the first two of these methods, with benchmarks for the cost of medical education at Bond University and in New Zealand included in Tables 5 and 4 respectively.

The Benchmarking Project undertaken by medical schools involves measurement of existing ‘expenditure’ levels, not the real costs of medical education. Expenditure levels identified through the Benchmarking Project reflect both historical Base Funding levels and other revenue streams accessible to universities. But, expenditure levels under-estimate future costs as they do not incorporate elements such as the cost of ‘pro bono’ teaching (see Section 5.2), the costs of clinical teaching in an expanded range of settings, the level of required investment in new technology (including both the staffing and capital costs for learning methods such as simulation and skills laboratories) and other factors (that are discussed further in Chapter 6).

The Benchmarking Project has been developed to help medical schools understand cost drivers and cost structures. Profiles have been developed for each medical school on dimensions of their structure and costs including: finances; staff (with separate profiles indicating the mix of academic and professional staff, as well as affiliated staff); students; teaching; research; and settings (hospitals, GP and campuses where teaching is delivered). These profiles are being used to help medical schools internally benchmark and better understand their cost structures.

For the purposes of this Review, a preliminary analysis has been undertaken to determine the ‘average’ expenditure per student (EFTSL) in 2009 across a sample of six universities, accounting for 25% of domestic medical students nationally. It is based on medical schools where detailed work has been undertaken to compare and harmonise costs using agreed definitions and methodologies. This sample comprises three mature, research-intensive medical schools and three newer (and less research intensive) medical schools. (Section 5.3 includes further discussion on the impact of teaching in a research-intensive environment). The analysis is based on medical schools, rather than medical students. That is, it includes revenue and expenditure by medical schools related to teaching medical students and to teaching other coursework students (such as some units for science students).

Table 6 shows the expenditure incurred for teaching on a per student basis, calculated to exclude any expenditure related to research and other non-teaching purposes. It indicates that in 2009 this sample of six medical schools spent about 85% more per student (about \$23,500 per student) on teaching than was available through the Base Funding Grant. In other words, the Base Funding arrangements (including both the government and student contributions) accounted for only about one-half (54%) of expenditure made by medical schools.

Table 6: Expenditure and funding of selected Australian medical schools, 2009

Source	Measure	\$/medical student
Benchmarking Project	Expenditure on teaching	50,727 to 51,149 ¹
DEEWR	Base Funding (CGS + student contribution)	27,287
Derived	Difference (Expenditure less Base Funding)	23,440 to 23,862

Note: Average expenditure on teaching at research-intensive medical schools was \$50,727; average teaching expenditure at newer schools was \$51,149. Section 5.3 includes further consideration of these differences.

5.1.4 Creating a new baseline in funding of Australian medical schools

There are no definitive answers about the ‘right level’ of government funding of medical education. As the Review Consultation Paper implies, much of the debate focuses on relativities.

However, the approach taken above by Medical Deans has attempted to demonstrate that on the weight of evidence (using three types of relativity benchmarks: comparisons with government funding of medical schools in New Zealand, Canada and England; comparisons with fees charged to full-fee paying students in Australian medical schools; and comparisons with actual expenditure incurred by a sample of Australian medical schools), there is relative underfunding by the Australian Government of medical education.

Using the most conservative of the three approaches to construction of relativity benchmarks (the comparison with government funding of New Zealand medical schools), Australian medical schools

are substantially underfunded by an order of magnitude of at least 50%. The 2007 New Zealand experience of 'resetting' the baseline of funding to adjust for historical lack of indexation is particularly relevant. Australian government funding of medical education has not kept pace with inflation, with the outcome being that Australian government funding rates are not internationally competitive, not even in comparison with New Zealand.

Accordingly, Medical Deans are recommending that the funding baseline for the Australian Government's contribution towards the cost of medical education needs to be increased by at least 50%. This level of investment is required to return the funding of Australian medical schools to internationally competitive rates, to recognise the major changes that have occurred since the early 1990s, and to redress the historical lack of adequate indexation. Additional investment will be required to implement the necessary reforms to improve the quality of medical education into the future (see Chapter 6).

5.2 The contribution of pro bono teaching

Q3.8 What other factors, if any, should be taken into account in determining base funding for teaching and learning in higher education?

One of the most challenging aspects of costing medical education involves decisions about how to treat the considerable share of clinical teaching that is provided on a pro bono basis. Of particular relevance to the Base Funding Review is the role of clinical educators in public hospitals and other health services, where there has historically been strong reliance on clinicians teaching the next generation of doctors on an honorary basis.

It is important to emphasise that the expenditure data for medical schools collected through the Benchmarking Project did not include any estimate of the hidden costs associated with pro bono teaching. This means that the recorded expenditure of about \$51,000/student in sampled medical schools is an underestimate of the real cost of medical education. Further work on quantification of pro bono teaching is being undertaken by the University of Sydney and will be included in a separate submission.

The perennial issue of how to recognise and fund pro bono teaching was considered in the Productivity Commission's landmark 2005 report on the health workforce.³⁰ The Commission noted that this issue is complicated by the fact that state-based remuneration arrangements for hospital staff may include some explicit requirements for teaching by either salaried staff or visiting medical officers. However, the Commission also reported stakeholder concerns about the 'continuing heavy reliance' on pro bono contributions and the sustainability of this approach with health professions increasingly reluctant to supervise clinical practice on an unfunded basis. Reflecting the disparate views of stakeholders, the Commission's conclusions were not clearcut. It proposed an expanded use of 'explicit payments' for clinical training services, but a 'continuing important role for pro bono training services'.

Medical Deans notes, however, that major changes to the funding of clinical education have occurred since 2005 which necessitate revisiting of the way forward on pro bono services. First, Health Workforce Australia (see Section 6.2.1 for further discussion) is now rolling out growth

funding for clinical placements, resulting in a situation where clinical educators will be explicitly remunerated for some 'new' clinical placements but not 'existing' (prior to 2009) clinical placements.

Second, governments agreed in 2008 to the implementation of 'activity-based funding' in the health sector, essentially involving specific payments for most public hospital services and 'outputs'. The effect of this is that the costs of teaching (and research) in the health sector will no longer be hidden subsidies, but instead be included in new cost-sharing agreements between the Commonwealth and state governments. Under the National Health and Hospitals Network Agreement, the 'funding contribution' of the Commonwealth Government to clinical training undertaken in public hospitals will be determined by the new Independent Hospital Pricing Authority.³¹

Both these developments are likely to further erode support for the continued provision of pro bono teaching, which is already under threat as demographic and cultural pressures result in less capacity to undertake clinical teaching on an unpaid basis. Future funding of medical education needs to recognise the convergence of factors that is generating pressure for formerly pro bono services to be effectively remunerated in the future.

5.3 Research and medical education

Q3.6 Should any research activity continue to be supported by base funding?

The focus of the Base Funding Review is on identifying the costs and relativities of teaching and learning undertaken by universities, with separate funding streams (such as NHMRC and ARC) and separate processes (such as the Sustainable Research Exercise) to address the costs of research.

However, Medical Deans wishes to emphasize the vital importance of ensuring that teaching of medical students occurs in an environment where clinical academics also maintain and strengthen a research profile. Accreditation of medical schools by the Australian Medical Council (AMC) formally requires that medical education is delivered "in the context of an active research program within the school".³² There is a strong expectation from the AMC that the majority of academic staff in medical schools will be 'research active', with all academic staff in medical schools involved in scholarly activities.

Together with medical research institutes, Australia's medical schools are the driver of excellence in national medical research. The integration of teaching and research in our medical schools offers many benefits. It ensures that each generation of medical students graduates with an enhanced capability to engage in life-long learning. Medical practitioners need to continually update their knowledge over their lifetime through distilling and applying new research findings so that the practice of medicine is evidence-based. In addition, many medical practitioners will actively participate in clinical trials and other research studies, thereby contributing to an effective feedback loop between patient care, outcomes-driven research and improvements in the safety and quality of clinical practice.

From the perspective of medical schools, research is core business. As stated by the AMC, a research ethos "attracts high calibre staff who can engender a milieu of critical appraisal and evaluation of existing knowledge". Teaching by research-active staff allows medical students to learn from staff who are well-placed to interpret advances in medicine. It provides medical students

with the opportunity to acquire a solid grounding in research training and experience that will stand them in good stead across the full range of potential career paths post graduation.

In general, the teaching of medical students in a research-active environment is likely to be more costly than teaching in other educational environments. Academic staff in medical schools effectively combine three roles and skill sets: academic teaching, clinical knowledge and practice, and research participation and leadership. Ensuring that medical students receive adequate exposure and training in research involves costs that sit outside existing research funding streams.

Hence, in response to the Consultation Paper question on supporting research through the Base Funding Grant, the position of Medical Deans is that the Base Funding Grant for medical students must be set at a level that recognises that teaching should occur in a research-active environment. This does not involve splitting or separately identifying the costs of a research-active environment, given that this constitutes the required standard and is, effectively, the 'norm' in delivery of teaching and learning to medical students.

In terms of the preliminary findings from the Benchmarking Project included earlier in Table 6, Medical Deans notes that the expenditure levels for the sampled research-intensive and less research-intensive schools were very similar. The absence of significantly higher expenditure levels in the research-intensive medical schools probably reflects a range of offsetting factors that are increasing the cost structure of the newer, less research-intensive medical schools on a short-term basis. For example, newer medical schools are likely to have: reduced economies of scale due to smaller numbers of enrolled students; relatively high start-up costs associated with curriculum development and other staffing-intensive activities; and a strong focus on geographically dispersed clinical settings. Over time, it would be expected that some of these cost drivers would reduce in impact while the shift to greater research intensity would increase costs, resulting in an expenditure profile that was more similar to mature medical schools.

Finally, Medical Deans notes that while there is a gradation in research-intensity across medical schools (associated with the duration of their establishment), the AMC standard of teaching in a research-active environment applies to all medical schools and should be adequately recognised in base funding levels for all medical students.

5.4 Costs associated with SES and disadvantage

Q3.3 What are the costs of engaging low SES students in undergraduate education? Should such costs be a factor in determining base funding? How might support for low SES students be maintained in the future?

Medical Deans believes that it is essential that medical schools reflect the diversity of the population that future medical practitioners will be required to treat. A diverse and representative medical student population is enriching, providing medical students with new insights and knowledge that supplement formal learning modules. (Similar arguments apply, of course, to the teaching faculty and to the use of 'patient' or 'customer' teachers as part of the medical curriculum).

Within this context of encouraging diversity in medical students, Medical Deans believes that there are inevitably higher costs associated with programs targeted towards the recruitment and retention

of diverse student populations. Medical schools offer a range of specific programs to achieve diversity, whether focussed on low socio-economic status (SES), Indigenous status, rural and remote location, disability or other factors that might otherwise result in under-representation. There is substantial investment in student mentoring, including personal support and professional learning mentoring programs. Medical schools offer various 'enabling' programs, including programs to improve on-line literacy and numeracy, English language proficiency and mathematics skills. Scholarships are another approach to encouraging participation by low SES students. In general, retention programs require higher levels of investment by medical schools (and universities), than programs focussed solely on recruitment.

The following Case Study provides one best practice example of the success of medical schools in achieving diversity in medical student intake.

Case Study: Educating the next generation of Indigenous doctors

In 2011 Flinders University achieved the largest intake of Indigenous medical students ever to a single Australian course under the new Northern Territory Medical Program.

The Flinders Indigenous Entry stream 'Preparation for Medicine' program is the third element in the selection process for Indigenous applicants to the graduate entry medical degree offered by the university. The Preparation for Medicine program extends over three weeks and is designed to give applicants direct experience of content, learning methods (such as problem-based learning), and formative and summative assessment formats central to the medical course, while simultaneously building a supportive cohort of students. It functions as the final step in assessing applicants' readiness to succeed in the medical degree. Applicants are assessed on their academic performance, teamwork, psychosocial factors and communication skills.

The resource requirements to mount this program are considerable, including teaching and assessment costs, travel costs, accommodation and all meals for participants for the duration of the program, and staff development to ensure cultural safety.

In 2011 Flinders University successfully recruited 14 Indigenous medical students via the Indigenous Entry stream, comprising 10 students based in the Northern Territory and four in South Australia. The Northern Territory Medical Program is designed around the principle of training students in, and engaging with, local communities to help build a sustainable and representative medical workforce for the Northern Territory.

6. Investing in the future of medical education

This final chapter examines issues related to clinical education (referred to as work integrated learning in the Review Consultation Paper). First, the scope and magnitude of clinical placements are profiled to indicate the contribution of clinical education to the higher cost structure of medicine relative to many other disciplines. Second, existing funding arrangements for clinical education (in particular, Health Workforce Australia) are examined to consider the extent to which they compensate for the major shortfall in funding of medical education through the base grant. Third, advice is provided on further ongoing reforms of clinical education that will contribute to improving the quality of medical education into the future.

Q3.4 What additional costs are involved in the provision of work integrated learning and should these be considered in setting the level of base funding?

6.1 *The role of work integrated learning in medical education*

Work integrated learning is the cornerstone of all medical undergraduate programs taught in Australian universities, regardless of the mode of entry or duration of the degree. Clinical education involves teaching methods designed to result in the acquisition of knowledge and practical skills; it is typically focussed on patients and their presenting problems in a range of clinical settings.

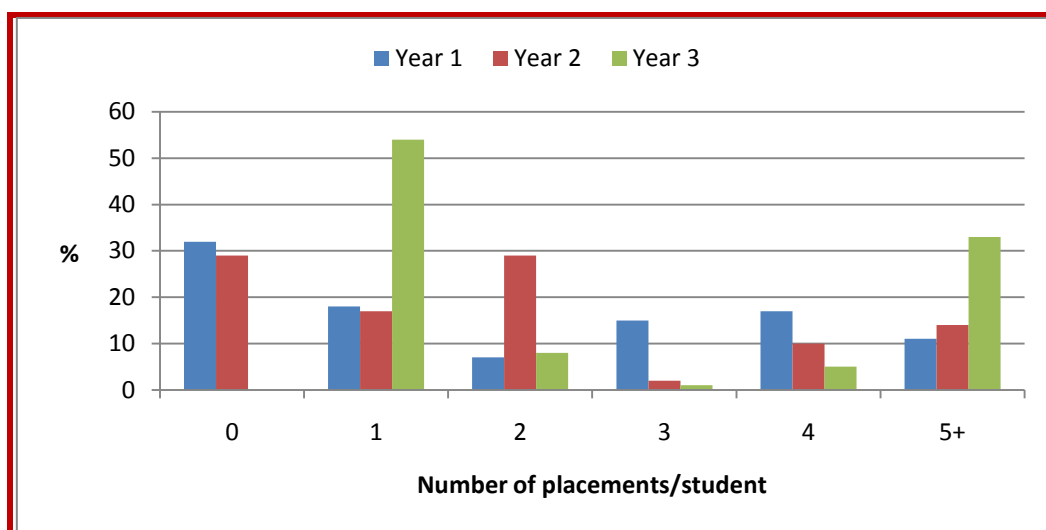
Historically, clinical education occurred in the final three years of a medical degree as discrete blocks or placements, usually in public hospitals. However, clinical education is increasingly being integrated into all years of the medical degree through a range of strategies.³³ This includes: students at some medical schools taking patient histories early in their training; concurrent clinical practice where clinical experience is directly integrated into specific subjects; and early practical applications of the basic sciences. As noted in Section 3.2.2, some Rural Clinical Schools now provide integrated clinical training across the whole year (or other period) of rural placements. Clinical teaching is also now occurring across a much wider range of settings, although this needs to be expanded.

Data collected through the Medical Schools Outcomes Database (MSOD) demonstrates the significant role of work integrated learning in medical education.³⁴ At June 2010 the MSOD included clinical placement data from 2005 to 2008, although 2005 data have not been included in this analysis as they were based on a limited sample of medical schools. The following analysis is based on a cohort analysis, with 2006 data representing Year 1 students, 2007 data for Year 2 students, and 2008 data for Year 3 students.

6.1.1 *Magnitude and duration of clinical placements*

Figure 4 includes information on the number of clinical placements each student undertakes according to the year of their degree. About 70% of Year 1 and Year 2 students will be required to undertake clinical placements, showing the shift away from the traditional distinction between 'pre-clinical' and 'clinical' years. By year 3, all students are undertaking clinical placements, with one-third (33%) undertaking five or more clinical placements during the year. The variation in the number of clinical placements in Year 3 students reflects the different degree types and course duration.

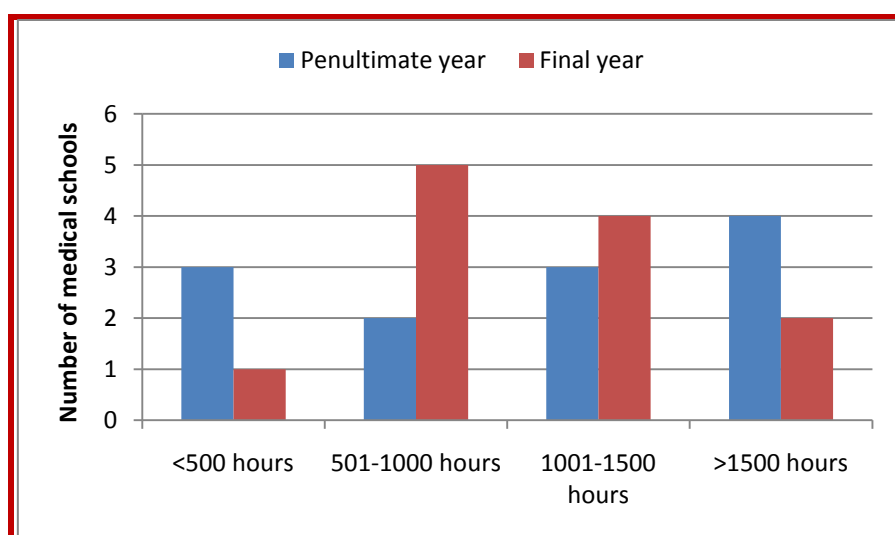
Figure 4: Distribution of clinical placements per medical student (2006=Year 1 cohort)



Source: MSOD

As well as the number of clinical placements, the duration of clinical placements increases significantly as students progress through their medical education. MSOD data indicate that in Year 1 of their medical degree, most students (85%) will spend less than 10 hours annually undertaking formal clinical placements. As the MSOD does not yet include data on clinical placements beyond Year 3 students, data from the Benchmarking Project have been used to identify the number of hours in clinical placements in later years of medical degrees (see Figure 5). In the penultimate year of their medical degree, students are spending an average of about 1,050 hours annually in clinical placements, while in the final year the average is about 1,015 hours annually.

Figure 5: Average contact time in clinical placements for later year medical students, 2009



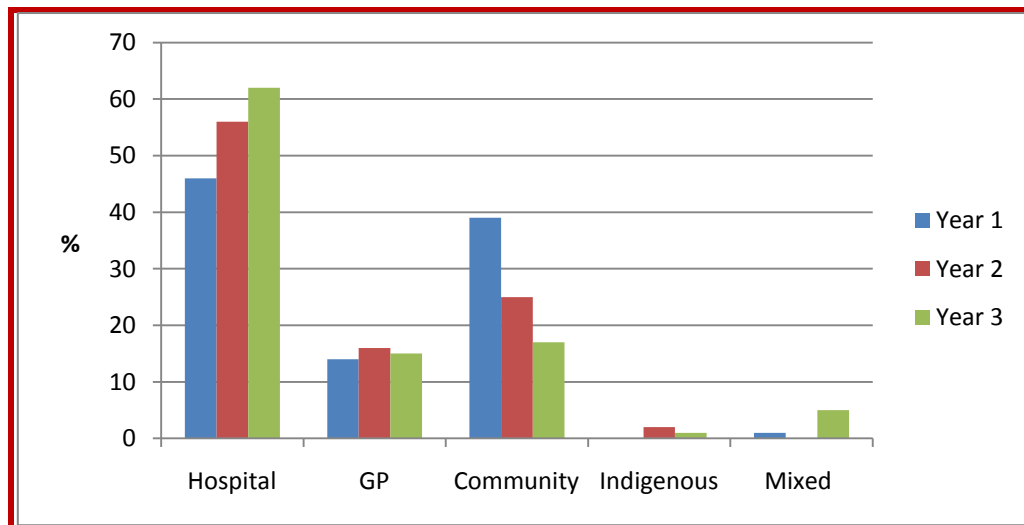
Source: Medical Deans Benchmarking Project (based on a sample of 12 medical schools)

6.1.2 Location and sites of clinical placements

MSOD data also demonstrates that medical students have considerable exposure to a diverse range of settings during their training (see Figure 6). In the early years, there is a strong emphasis on

learning through placements in community settings and GP practices. By Year 3, over 6 in every 10 clinical placements are being provided through acute hospitals.

Figure 6: Site of clinical placements for medical students (2006 = Year 1 Cohort)



Source: MSOD

Note: Mixed placements comprise placements where the student will receive training across a range of settings.

In addition to this diversity of clinical training sites, there is also considerable geographic diffusion of clinical education. MSOD data indicate the important contribution made by the Rural Clinical Schools program. In 2008 about one-quarter of medical students undertook clinical placements outside metropolitan areas (that is, outside the ARIA major cities category). This represents a significant change compared to earlier decades when clinical placements were provided almost exclusively in major metropolitan teaching hospitals.

In summary, the magnitude, breadth and location of work integrated learning in medical education (through a mix of formal clinical placements and integrated clinical learning throughout the degree) is substantial. The costs associated with clinical education are one of the most significant factors contributing to the cost structure of medical education.

Medical Deans believes that the overwhelming role of clinical training in medical education means that medicine should be recognised as a high cost cluster in any future changes to the grouping of disciplines within existing clusters.

6.2 The funding patchwork for clinical education

Currently there is considerable fragmentation of funding for medical education and, in particular, the clinical education component. Clinical education is supported through a mix of funding sources including: the Base Grant (the CGS and various loadings such as the medical student loading); student contributions; new payments from Health Workforce Australia that provide a contribution towards the cost of 'new' post 2009 clinical placements; the Rural Clinical Schools program; pro bono teaching provided in clinical settings; payments and 'in kind' support from state governments; and other payments made by universities/medical schools to meet the existing 'bottom line' of expenditure on medical education.

At issue is the extent to which this patchwork of funding arrangements for clinical education compensates for the major shortfall in funding of medical education identified in Chapter 5. The magnitude and sustainability of these alternative funding sources for clinical education are examined below.

6.2.1 Health Workforce Australia

The establishment of Health Workforce Australia (HWA) followed explicit acknowledgement by COAG in December 2008 that:

“Clinical training capacity has not kept pace with the increase in tertiary training places and current funding levels limit appropriate and adequate clinical training to existing and future health trainees and the settings in which they can be trained. Student numbers and clinical training requirements will increase dramatically more than health funding and activity through to 2013.”³⁵

The commitment at COAG included funding by the Australian Government of almost \$500 million over four years from 2009/10 to 2012/13 for recurrent funding related to undergraduate clinical training. Some two years later, it appears that the ‘trickle-down’ of this funding commitment to medical schools will result in very limited increases in new funding available for clinical education of medical students.

Recent preliminary advice³⁶ to Medical Deans from HWA is that the funding allocation for medicine for the Clinical Training Funding program is about \$56 million over the three academic years from 2011 to 2013. This amount is less than 15% of the funding committed by the Australian Government through COAG for the equivalent three year period. It means that the 18 medical schools are receiving, in aggregate, less than \$20 million of new funding annually directly to support clinical placements for undergraduates. The limited increase in additional funding for medical school clinical placements arises because the COAG funding is required to cover up to 24 potentially eligible health professions agreed by Health Ministers. It should be noted that HWA will also be making available some limited clinical training funding related to supervision capacity and for simulation learning environments (see Section 6.3). There is no guaranteed funding available to HWA beyond 2012/13 as the COAG agreement only established the HWA budget for its first four years of operation, resulting in uncertainty about the magnitude of funding for clinical placements after 2012/13.

However, it is not just the magnitude of the available funding that is problematic in terms of ensuring a sustainable funding base for clinical education. The basis on which HWA is allocating clinical placement funding results in skewed incentives that are likely to distort the future management of clinical placements by medical schools. The funding allocation is effectively creating two tiers of clinical placements that are funded at different rates and with different conditions and reporting requirements.

The HWA funding allocation is restricted to providing funding only for the growth in student numbers (new and continuing student places) in excess of the 2009 baseline. Yet Figure 1 demonstrates that the number of commencing medical students more than doubled between 2000 and 2009, up by 117% from 1,361 students in 2000 to 2,955 in 2009. The HWA allocation provides no extra funding to medical schools for the huge increase and cost of clinical places required over

the past decade. Moreover, COAG has already acknowledged that clinical training places had not kept pace with this increase in student numbers, so that there were not sufficient places for existing students (let alone future students). But, the HWA allocation process does not allow medical schools to receive funding for growth in clinical places unless they can also demonstrate growth in student numbers. In other words, medical schools have no opportunity to 'catch up' and overcome the deficit in clinical placements that occurred as medical school commencing enrolments doubled over the past decade. Instead, HWA funding can only be applied to new clinical training places for growth in students in excess of the 2009 baseline.

It can be seen that the HWA funding is essentially a case of 'too little, too late'.

In conclusion, the incremental increase in funding for clinical placements through HWA (about \$20 million annually, averaging about \$1 million for each medical school) whilst welcome, does not make up for the disparity between base funding grant levels of about \$27,000 per medical student and expenditure by medical schools of about \$51,000 per medical student.

6.2.2 *The Rural Clinical Schools Program*

The Rural Clinical Schools program provides another source of funding to help medical schools meet the costs of clinical education, over and above Base Funding arrangements. The level of investment by the Australian Government Department of Health and Ageing reflects the vital contribution of rural clinical schools in ensuring a viable rural health workforce.

While Section 3.2.2 reported on the positive findings of the Evaluation of the RCS program, it is not possible to use actual RCS funding levels as a robust benchmark for the costs of clinical education. Budgetary reporting by the Australian Government Department of Health and Ageing does not separately identify the level of Commonwealth expenditure on Rural Clinical Schools, with all rural workforce programs aggregated. In addition, the RCS Evaluation suggested that there may be scope for more equitable distribution of funding across rural clinical schools, given that initial funding was based on university-specific bids so that RCS funding levels vary between medical schools.

Medical Deans notes that RCS program funding has effectively been built into the financial bottom line in providing clinical training in a diverse array of rural settings and locations. Ongoing investment by the Department of Health and Ageing is required to sustain clinical education in rural Australia.

The RCS program is essentially the gold standard with regard to funding of clinical education, while DEEWR funding for clinical education through base grant arrangements now lags well behind.

6.2.3 *Other funding sources for clinical education*

Historically, much clinical teaching in public hospitals has been indirectly funded, through a combination of state government subsidies and the pro bono contribution of clinical staff in hospitals. State government contributions have included salary support for clinical academics and access to facilities used in teaching. Since 2006 Victorian public hospitals have implemented charges payable by universities to recognise the costs associated with clinical training. To the extent that this approach is adopted by other states and/or other health service providers, it changes the cost

profile of clinical education. Costs that were formerly hidden become explicit and need to be incorporated in setting new, sustainable funding arrangements.

There is also considerable overlap between state government subsidies for clinical education and the contribution of pro bono teaching provided by hospital staff. Section 5.2 noted that the determination of the magnitude of pro bono teaching has to take into consideration teaching requirements included in remuneration arrangements for hospital staff. While pro bono teaching has historically been the 'norm', the AMES study found that there was a growing reluctance on the part of many clinical educators in health care services to continue to provide clinical training on an unpaid basis.

Funding streams are also grossly inadequate in regard to the provision of clinical training in settings outside public hospitals. The National Clinical Training Review found that less than 20% of general practices in Australia are involved in teaching students.³⁷ Barriers to greater participation of GPs in clinical training include the high opportunity costs, lack of physical space and difficulties in supporting training flowing from more part-time GPs. In 2007 leading proponents for expanding the role of general practice in clinical training argued that the payment of \$100 per teaching session available under the Practice Incentives Program (PIP) was insufficient to cover the loss of income for GPs engaged in teaching students.³⁸ In 2011 the PIP payments are still only \$100 per session, with practices restricted to two sessions per day.³⁹

6.2.4 The status of funding for clinical education

In summary, while medical schools can access some funding outside the Base Grant to support clinical education, there are substantial problems with the adequacy of existing funding arrangements for clinical education. These are not being addressed through the new funding provided by Health Workforce Australia; moreover, most other funding programs (with the exception of the Rural Clinical Schools program) are grossly inadequate to meet the real costs of providing high quality clinical teaching.

It is not only the available quantum of funding that is causing concern, but the complexity associated with the multiple funding streams that contribute to the cost of medical education. While it is inevitable that medical education will continue to be jointly funded through the higher education and health sectors, Medical Deans believes that there would be value in examining how to rationalise funding arrangements to improve transparency and understanding of the real costs of medical education.

The funding of clinical education in medicine is at a tipping point. There has been a lack of investment by governments in clinical education staffing and infrastructure to meet the doubling of medical students over the past decade. Without a sustainable funding model for existing clinical education services, medical schools will not be able to continue to innovate and transform clinical education into the future.

6.3 *Improving the quality of medical education into the future*

- Q3.2 What are the costs to universities of improving the quality of teaching and the quality of the student learning experience at the undergraduate level and to what extent should they be reflected in the base funding model?
- Q6.1 To what extent does the base funding model provide incentives for institutions to invest in and deliver high quality teaching?

Given that the Base Funding Review is about improving the quality of teaching and the student learning experience, Medical Deans wishes to provide some concluding advice regarding its vision of how medical education might continue to evolve in the future.

Medical education has already been transformed over the past two decades with developments such as: the emergence of graduate entry programs (and most recently postgraduate medical courses offered at masters level); the expansion of clinical training into rural Australia; and the uptake of new pedagogies such as problem-based learning. However, Medical Deans believes that Australian medical schools should continue to demonstrate leadership and innovation in improving the quality of medical education into the future.

Further areas of ongoing reform to the quality of medical education include:

- **Growth in ‘distributed’ clinical training and collaborative teaching across universities:** The Flinders University Northern Territory Medical Program (profiled in Section 5.4) is one example of the trend towards distributed clinical training. Other examples include: the partnership arrangements between Flinders and Deakin universities establishing the Greater Green Triangle program of research, education and training in rural health; and the joint medical program being offered through collaborative arrangements between Newcastle University and the University of New England. These new arrangements represent a quantum leap from the 1970s when students had a choice between eight medical schools located in six capital cities offering broadly similar programs (the Henry Ford ‘you can have any colour as long as it is black’ model of higher education). Distributed models of clinical training require considerable investment by medical schools in staff time and expertise, including identifying likely geographic areas of need and partnership opportunities to build upon complementary skills and infrastructure with other universities. Australian Medical Council accreditation reports cite the costs of distributed models including: the challenge in building ‘engagements with all clinical sites about new developments in the medical course and facilitating shared clinical appointments’; and the need to guarantee the ‘reliability of IT infrastructure to ensure an adequate learning experience at all sites’.⁴⁰
- **Major expansion of clinical training to new settings:** The National Health and Hospitals Reform Commission recommended that clinical training infrastructure needed to be provided across all settings (public and private health care providers, hospitals, primary health care and other community settings).⁴¹ It is widely recognised that the changing acuity and length of stay profile of public hospital utilisation means that medical students will not get exposure to the full continuum of health conditions through relying on public hospital clinical placements alone. While Figure 6 indicated that non-hospital settings accounted for

about 40% of clinical placements for Year 3 students in 2008, many areas of clinical practice are under-represented in the clinical training options available to medical students. There is still very limited uptake of clinical training in private hospitals, with one contributing factor being the inadequate funding arrangements for clinical placements. Medical students also get limited exposure to residential aged care services, despite the ageing population with increasing rates of dementia and other age-related health problems.

- **Increased provision of simulation, skills laboratories and online learning:** The Australian Medical Education Study found that access to simulation and computer-assisted learning was highly variable, but generally under-utilised. This is consistent with findings of recent AMC accreditation reports for individual medical schools. While HWA is shortly to announce a funding round targeted at expanding simulated learning environments, the focus is on establishing a national network of simulated learning environments through a competitive tendering process. In addition, it is anticipated that much of the available funding will be directed towards capital infrastructure, although the significant ongoing costs will be recurrent costs associated with staff training.
- **Investing in new medical curricula and ongoing evaluation of medical education:** There is a continuing need to refresh and/or to undertake major upgrades of medical curricula in terms of both content and teaching methods. Some of this has been given new impetus through the creation of graduate entry programs by more recently established medical schools. Other potential approaches such as inter-professional learning and a vertically integrated approach to medical education would represent major shifts to the current delivery model of undergraduate medical education. The creation of the MD course at the University of Melbourne is another example of the potentially significant changes to the design of medical curricula, with at least two other medical schools likely to adopt this model.

In conclusion, Medical Deans is committed to ensuring that medical schools provide ongoing leadership in reforming and improving the quality of medical education into the future. Medical Deans would welcome the opportunity to assist the Review Panel in determining how changes to Base Funding Grant arrangements could achieve this objective.

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