ANZCA

Australian and New Zealand College of Anaesthetists

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Submission

Review of Australian Higher Education

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Executive Summary

The Australian and New Zealand College of Anaesthetists (ANZCA) is committed to a safe, accessible and equitable public health system that delivers improved health outcomes for the Australian community.
High quality health services are dependant on health system quality and safety, the development and maintenance of clinical standards, adequate resources, including appropriate medical, nursing, and allied health workforce training plus the supervision of those trainees.

ANZCA is the *primary conduit of specialist education in anaesthesia, intensive care and pain medicine* in Australia and New Zealand. It has developed a world-class training and education program with a built-in system-wide quality assurance mechanism that includes on-going professional development.

ANZCA is one of twelve medical colleges in Australia accredited by the Australian Medical Council (AMC) – the colleges are important, efficient and effective providers of postgraduate higher education and training of medical specialists. They do this in partnership with the universities, all requiring the same academic and research needs to ensure on-going development and innovation. The colleges have a life-long association with their fellows, thus colleges are in an ideal position to cater to their long-term educational needs. The fellows are located in public hospitals as well as in private practice, and thus can train in many different sites, which exposes trainees to the range of work available.

The challenges of an ageing population and increasing burden on our health system will have a major impact on the provision of health care and the training of health care workers, including medical specialists. Coupled with this is *the need for more specialist training and resources for supervisors of specialist trainees, particularly for rural and remote areas*. Further investment in the education of medical specialists is required to enable the development of web-based curricula and simulation based training.

Increasingly, medical graduates expect to work reasonable hours consistent with the general industry standard and are less willing to work the long hours common to earlier generations. This has to be factored into training programs and future work rosters and is particularly important in rural and regional areas. ANZCA has been successful at exceeding the AMWAC targets for specialist anaesthetist supply by training increasing numbers of anaesthetists, however there are still issues in relation to distribution and amount of hours worked.

It is time for greater collaboration between governments at every level (federal/state/local) to work together, and accept responsibility collectively, to improve the higher education needs of the community. Greater attention to health workforce needs is essential to provide for future generations and more investment in workforce data analysis and planning is urgently required by Government.

Introduction

Anaesthesia is a broad area of medical practice that underpins many services in acute care hospitals, including peri-operative medicine and acute pain management. Modern and complex surgery has been made possible and safe for patients by the advances in anaesthesia, which over the last 50 years, has become a highly specialized area of medical practice. Pain Medicine and Intensive Care Medicine are both full medical specialities in their own right in Australia. Pain Medicine provides services for patients with complex pain issues peri-operatively, for specialists and GPs in the community and palliative care services where interventional care fails.

The Australian and New Zealand College of Anaesthetists (ANZCA) is committed to ensuring the highest standards of anaesthesia, pain medicine and intensive care medicine which has resulted in Australia and New Zealand having one of the best patient safety records in the world. This contributes to the high level of health outcomes enjoyed by most Australians.

ANZCA

The Australian and New Zealand College of Anaesthetists (ANZCA) is the professional medical body in Australia and New Zealand that conducts the education, training, and continuing professional development of anaesthetists, intensivists (intensive care medicine specialists); and pain medicine specialists.

ANZCA, which meets the requirements set by the Australian Medical Council (AMC, 2002), has two Faculties, the Joint Faculty of Intensive Care Medicine (JFICM), jointly with the Royal Australasian College of Physicians (RACP), and the Faculty of Pain Medicine (FPM) which liaises with and has input from five Specialist Colleges. The training and education programs of both Faculties have been accredited by the AMC. ANZCA sets the standards of clinical practice in Australia and New Zealand.

ANZCA has contributed to the work of the Australian Medical Workforce Advisory Committee (AMWAC, 1996, 2001), and reports annually to the Medical Training Review Panel (MTRP,2007). ANZCA is accredited by the AMC until 2012. Details of the ANZCA education, training and continuing professional development programs are available on the College website at www.anzca.edu.au.

The Review of Australian Higher Education by the Commonwealth Government provides an important opportunity to review the sector and its relationship and impact on medical specialist education. ANZCA welcomes this excellent initiative and is most willing to assist the Review Expert Panel in its work.

This submission further builds on the information ANZCA (DEEWR, 2007) provided in its response to the Medical Education Study conducted by the then Department of Education, Science and Training in 2006 (DEEWR, 2006).

Quality education and training of the health workforce as well as adequate supply is crucial to a well functioning health care system. The role of the

medical colleges in the education and training of medical specialists is a vital part of the broader higher education infrastructure that needs consideration as part of the review. ANZCA has developed a low cost, higher education program that is world class (see below for further details).

This submission, guided by the terms of reference, responds to the questions that are more pertinent to the College. A description of the ANZCA education and training program is provided followed by more specific comments on the issues raised by the relevant key questions in the discussion paper.

Education and Training of Anaesthetists

Over the years ANZCA ("the College") has developed a comprehensive and high quality training and education program, administered by the College, with supervision and governance arrangements. ANZCA supports on-going learning by all health professionals through its Continuing Professional Development (CPD) program, recently updated and made available on-line.

Medical colleges make effective use of a highly dispersed workplace-based network of clinical teachers. ANZCA currently relies heavily on its membership, the Fellows, as well as the public hospital system in each state, and some private hospitals, to provide the basic infrastructure necessary to enable the training of specialists in anaesthesia, intensive care, and pain medicine. Most ANZCA Fellows participating in specialist training (in anaesthesia, intensive care and pain medicine) provide their services to the College on a pro-bono basis. The supervision and monitoring of trainees is critical to their development as professional specialists.

The ANZCA model of training relies on trainees moving through the module-based training program, with a gradual reduction in the requirement for close supervision, combined with competency based workplace assessments and formal examinations. Supervision is provided by specialist anaesthetists, as part of their normal duties.

ANZCA Training Program

ANZCA operates its Training Program bi-nationally, through its regional offices in the Australian states/territories as well as the national office of New Zealand. ANZCA conducts training and examinations in South East Asia, via Hong Kong, Malaysia and Singapore. The College also has a well developed series of clinical standards in anaesthesia which should apply across all hospitals seeking accreditation. ANZCA maintains international best practice and stays abreast of all international trends (Thompson, Phillips, & Cousins, 2007).

The ANZCA Training Program requirements include completion of Basic and Advanced Training; Curriculum Modules; In-training assessment and Primary and Final Examinations over five years. It was redeveloped for implementation in 2004 using CanMEDS (RCPSC, 2001) principles and addresses key components of modern professional practice with knowledge, skills and professional behaviour integrated into the framework. The College is seeking to further improve training by reviewing and redesigning components of its:

- *teaching and learning activities based on current best practice;*
- *match between learning activities and assessment;*
- *course evaluation and continuous quality improvement / monitoring activities; and*
- *teacher training and development to support the curriculum delivery.*

A series of innovative teaching strategies are currently being funded, developed and systematically trialled.

A comprehensive curriculum review has been initiated which will include large scale participation and wide ranging stakeholder involvement. The curriculum review is being designed to ensure that the curriculum is contemporary and prepares trainees to be competent and well prepared to deliver safe and effective clinical practice for the Australian population into the future. Improved systems for quality assurance of educational experience will be developed during this process.

Together with the curriculum review activity, the assessments of the trainee program will be reviewed. With advances in assessment methods internationally, it has been established that the College will shift the emphasis of testing to use methods that can measure performance by using new workplace-based assessment (WBA) methodologies. ANZCA is currently trialling three WBAs for their suitability and feasibility as assessment tools, short clinical encounters (Mini-CEX), Directly Observed Procedural Skills (DOPS), and Anaesthesia Non-Technical Skills (ANTS).

Training occurs within an Approved (ANZCA accredited) Hospital Department or Approved Training Site as defined in the College Regulations. Trainees are assigned a Supervisor of Training who oversees their training and the trainees begin their training as an anaesthetist under direct supervision by Fellows of the College. The approved hospital department must be part of a rotation that provides the breadth of clinical experience required of a specialist anaesthetist.

ANZCA also offers a simulation course to its trainees - the Effective Management of Anaesthetic Crises (EMAC) course, to provide education in the immediate management of life-threatening anaesthetic emergencies. This course uses high fidelity mannequins with computer simulation of real life crises which have to be responded to effectively by the trainee. The course, designed within the Australasian context to specifically address the needs of our trainees, emphasizes teamwork, leadership and communication, and was developed from pilot cockpit training models used internationally.

ANZCA currently provides teacher training and support for Supervisors of Training through access to the Clinical Teaching Course. This is a modular program dealing with a variety of key aspects of teaching and learning in anaesthetic practice. Over the next two years, this course will be reviewed and redeveloped. One major consideration is developing a method of delivery which is both effective and widely available to all clinical teachers in diverse geographical locations.

Whilst this information focuses mainly on anaesthesia, the FPM and JFICM run their own training programs and conduct their own hospital accreditation. Co-operation and sharing of resources exists where there is overlap of information.

Responses to Questions raised in Discussion Paper

Section 1. Higher education in modern Australia

1. *How adequate is the statement of functions and characteristics of higher education in modern Australia?*

Medical Colleges – an integral part of the higher education sector

ANZCA is best classified as a quaternary education institution and needs to be considered in the broader statement of higher-level education and its delivery, in addition to the tertiary sector. The discussion document is highly geared towards universities - acknowledgement of the functions of ANZCA and other medical colleges in the higher education sector should be made explicit. The education and training by specialist medical colleges can be described as "vocational or apprentice-like in style".

ANZCA is broadly self-funding via trainees and Fellows, as are most specialist colleges, and has tax-free (charitable) status. This represents a significant benefit but, increasingly, demands by Government in relation to issues such the assessment of International Medical Graduates (IMG), accreditation together with recurrent on-going or re-accreditation, and quality and safety are placing additional burdens on the resources of the medical colleges.

There is a need for academic education – research training which includes the more intensive PhD research education opportunities within higher-level education training (eg teaching the teachers).

All Australian State capitals, and the ACT, have Chairs of Anaesthesia, sometimes combined with Pain Medicine, and sometimes combined with Intensive Care. While these academic departments have a major responsibility for research, and for teaching of undergraduates, they also contribute to postgraduate teaching, and supervise MD and PhD candidates. In the case of Anaesthesia, Pain Medicine and Intensive Care, these candidates may be employed by the academic department, but may also be Fellows who undertake research towards their higher degree in addition to their normal clinical activities.

Section 3.1. Meeting labour market and industry needs

Providing for future generations

The combined growth and ageing of the population (ABS, 2004) will have a major impact on the provision of health care and the training of health care workers, including medical specialists, in order to adequately provide quality services for future generations. The training of adequate numbers of specialists also depends on the provision of adequate teachers. Demographic

changes are resulting in urban consolidation and drift, as well as declining populations in some small rural towns, requiring a community needs analysis. The implications for rural and remote areas are of most concern, requiring targeted initiatives including special educational initiatives to cater for the needs of educational isolation. Technological change in medicine is also a major consideration.

The Productivity Commission's Health Workforce Report (2005) confirmed the current health workforce shortages, which are well recognised by COAG (2007). The shortages remain despite the fact that the workforce has been growing at nearly double the rate of the population, with an increasing reliance on International Medical Graduates (IMGs). Notwithstanding isolated issues in some states, the recruitment of IMGs has been successful. However, in the future, Australia's reliance on IMGs will be challenged by quality issues and international competition for these same doctors.

Increasingly, medical graduates expect to work reasonable hours consistent with the general industry standard and are less willing to work the long hours common to earlier generations. This is not only a health and recreational issue for doctors but also a safety issue for patients because of potentially fatigued medical practitioners. This has to be factored into training programs and future work rosters. The implications for rural and remote areas and Indigenous communities are multiplied further given the reluctance by specialists (in general) to work in outer areas due to family considerations, perceived isolation and academic ambitions.

Anaesthesia workforce

In its submission to the Productivity Commission's Health Workforce Report, ANZCA (2005) alluded to the difficulty in obtaining accurate statistics on workforce demand. The best data available on demand for services are provided by the Australian Medical Workforce Advisory Committee (AMWAC). For example, AMWAC Report 1996.3 and AMWAC Report 2001.5 deal with the anaesthesia workforce.

ANZCA has endeavoured to, and been successful at, exceeding AMWAC targets of specialist anaesthetist supply, but this does not mean necessarily that the supply of anaesthetists is completely adequate at all times and in all places. Due to the limitations of AMWAC surveys, the true demand for health workforce professionals is not known, but community expectations are increasing.

The total number of practising ANZCA Fellows in Australia has steadily increased, surpassing the AMWAC target of 2.2% per annum increase and in fact increasing by more than 5% per annum. During the period 1994 to 2004, the workforce increased by 58.9%. So the problem is not so much about absolute numbers of anaesthetists, but rather, their distribution and the total hours worked per week.

ANZCA currently has more than 3,500 Fellows (practising) in Australia. In relation to the number of trainees, at the end of 2007 there were 485 Basic

Trainees (360 anaesthetists, 125 intensivists) and 750 Advanced Trainees (416 anaesthetists, 285 intensivists, and 49 pain medicine specialists). The 11th Medical Training Review Panel (MTRP, 2007) report provides further data on medical training in Australia.

ANZCA Workforce Surveys

ANZCA has conducted four workforce surveys, (in 1994, 2000, 2002, and 2005) with a further one commissioned in 2008, and has kept yearly records on the demographic status of Fellows. Over the period, the age distribution has remained relatively constant, with the average age being 47. However, the gender distribution has changed significantly since 1994 and the proportion of female respondents has increased from 16% to 25%.

The surveys also highlight changing lifestyle preferences leading to less total hours worked per week compared with earlier generations of anaesthetists. There is a mal-distribution of anaesthetists resulting in shortages in rural and regional areas as well as low rates of satisfaction with workload in rural areas. Further studies are needed to examine this in more detail.

Since the abolition of AMWAC by the previous Commonwealth Government, the Medical Training Review Panel's annual reports (since 1995) are the only source of data that breaks down into State figures. A number of the Colleges are very concerned that the excellent track record of AMWAC in collecting and interpreting College data has not been picked up by the Health Workforce Principal Committee or its agencies. Despite a decision by MTRP in 2007 that all College data be standardized and collected by one agency and then be made available to those bodies requiring it (which now include MTRP, the AMC, the Commonwealth Department of Health and Ageing, with periodic incursions by ACCC), there is good evidence that this has not yet been achieved.

A comprehensive workforce study designed to identify the supply and demand parameters for anaesthesia services in Australia is being undertaken this year for the College and the Australian Society of Anaesthetists (ASA) by Access Economics. The results of the study, funded by the College and the ASA, will help to understand the type and quantum of services provided and the potential gaps in the future provision of those services. The survey component of the study includes an analysis of the various geographic and service segments, which will give greater insight into anaesthesia services and current issues.

Preparation for Postgraduate Training

Medical graduates or postgraduates entering anaesthesia training in postgraduate year (PGY) three will be optimally prepared to benefit if they have a good grounding in relevant physiology and pharmacology, and in relevant physics, as well as in the professional attributes modified from the CanMEDS 2000 Project by the Australian Medical Council (AMC). This is irrespective of whether medical students have completed a traditional undergraduate medical course, or a graduate medical course, and irrespective of the extent of problem-based learning within the course. In addition, they should have good technical ability in those skills essential for practice during anaesthesia training.

The first two years of (basic) training are crucial in that they aim to allow trainees to develop a foundation for the ongoing skills and abilities they will achieve during subsequent vocational training. While it is clearly the role of ANZCA to define the requirements to be met in the specialty, optimally prepared trainees moving from the PGY years into basic training need to have the following minimal competencies:

- understanding of clinically relevant physiology, pharmacology and physics (includes relevant chemistry/biochemistry);
- ability to function competently at PGY2 level;
- Australian Curriculum Framework competencies (CPMEC, 2007);
- ability to take a patient history, conduct a physical examination, order and interpret common clinical, laboratory and medical imaging investigations;
- appreciation of principles of occupational health and safety, and of infection control;
- communication and consultation skills, with capacity for teamwork, and for establishing rapport with patients;
- management of common postoperative problems such as pain, nausea and vomiting, fluid and electrolyte requirements;
- capability of managing advanced cardiac life support, resuscitation, and advanced trauma life support;
- facility with technical skills such as intravenous access, endotracheal intubation and artificial ventilation, decompression of a pneumothorax, lumbar puncture, rapid fluid/blood infusion;
- identification and management of medical emergencies such as arrhythmias, hypotension, hypertension, hypoxia, hypercarbia, anaphylaxis, seizures, and pneumothorax; and
- understanding of the major differences in all of the above between non-pregnant and pregnant women, and between adults, children and neonates.

In addition to the clinical competencies outlined above, the beginner trainee will, ideally, be an effective, self-directed learner, able to reason and make decisions in a variety of situations, particularly critical ones, and be capable of both giving and receiving feedback. He/she should be capable of developing a study plan and reflecting on clinical experiences; conducting literature searches and appraising publications; participating in small-group learning and making oral presentations.

Attitudes and behaviours espoused in the CanMEDS principles are best developed during undergraduate and early postgraduate training, rather than learnt for the first time in vocational training. From the point of view of those who teach and supervise the training of anaesthetists, the ideal postgraduate entering anaesthesia training should be a balanced person, a professional and caring practitioner with the knowledge, skills and attitudes described above, and the capacity to learn, to practise, and to teach others in their turn (Frank, 2005, 2007).

An important factor in improving the transition to postgraduate training is to continue to improve undergraduate, early postgraduate and vocational training

to ensure firstly that the role models for trainees improve progressively and secondly that there is an easy transition from medical undergraduate education through postgraduate education to continuing professional development.

In relation to clinical skills, the College is of the view that *increased emphasis should be placed, both in undergraduate and early postgraduate years on the use of clinical skills laboratories and simulators* to teach technical skills and resource management skills prior to, and in all years of clinical training. ANZCA will be participating in the Australian Society for Simulation in Healthcare (ASSH) meeting 'Simulation Training for Specialist Trainees: focus on Non-Technical Skills' in August 2008. This meeting will focus on piloting innovative uses for simulation in postgraduate medical education.

Section 3. Key challenges and issues for higher education

2. Are there impediments to the higher education sector being able to innovate in the development of courses and programs? What are these impediments and how could they be removed?

All medical colleges are accredited by the AMC and, as a result, consistent standards have been developed for colleges to follow – this may have the effect of stifling innovation as this would need AMC approval, however this can be worked through in practice, through mechanisms such as the CPMC and its various committees (see below).

The availability of sufficient resources (technological and human) is a major consideration. Web-based (on-line) resources are expensive in terms of time and the required information technology expertise. This is also a major factor for contributing anaesthetists who have to prepare and regularly review the educational content.

Systems issues are an important consideration given training occurs in an environment (hospitals) in which the delivery of health care is the prime concern. *The service requirements of trainees working in public hospitals (and some private hospitals) can sometimes have an effect on the education and training aspects.*

3. What are the appropriate mechanisms at the national and local level for ensuring higher education meets national and local needs for high level skills? What is the role of state and territory governments in this area?

There is a continuum of medical education from undergraduate level (delivered by the Universities) through pre-vocational training (co-ordinated by the postgraduate medical councils in every state and the Institute of Medical Education and Training in NSW) through to postgraduate medical/vocational training and then continuing professional education provided by the medical colleges. This, together with the need for learning in clinical placements, places medicine into a unique category in terms of planning needs and complexity of training. These require careful planned collaboration between State and Federally funded areas for health and education. State/Regional jurisdictions largely control the number of training posts in public hospitals as

they are responsible for the salaries. Also, currently, they pay for the supervisors' time in relation to the education and training requirements of trainee specialists.

A co-ordinated federal approach is necessary. As previously described, appropriate accreditation of all medical education providers such as ANZCA is via the AMC, which has robust processes for accreditation of institutions that train medical practitioners. The medical colleges all work together as part of the College of Presidents of Medical Colleges (CPMC). ANZCA and other colleges also work with the various State jurisdictions, so that the colleges can understand the community's expectations of health care, and so that the government can understand what the colleges have to offer. There is a link between CPMC, Deans of Medical Schools and the Confederation of Post Graduate Medical Education Councils (CPMEC),

An example of this collaboration is the involvement of one of ANZCAs Director of Professional Affairs with the CPMEC on the Australian Curriculum Framework Competencies, and with the Education Subcommittee of the CPMC on Recognition of Prior Learning (RPL).

Rural specialists have identified their continuing professional development needs; these include enhancement of their ability to provide better patient care, and improvement of their clinical skills and crisis management. Key educational activities can be delivered in a lecture videoconference format, preferably with a facility for audience participation. In addition, the development of on-line education modules will assist with education and training via the internet. Limited support is currently provided by some Government programs to rural specialists such as the Support Scheme for Rural Specialists (SSRS) and the Rural Advanced Specialist Training Scheme (RASTS). There is a need for greater web-based education, and for simulation centres to assist in standardisation and training.

Pain Medicine

There is growing emphasis on developing multidisciplinary management strategies for chronic illnesses such as chronic pain. The Faculty of Pain Medicine (FPM), under the auspices of ANZCA, was established through the co-operation of five medical specialties and their respective colleges (Anaesthesia, Medicine, Psychiatry, Surgery, and Rehabilitation Medicine). Fellows in Pain Medicine (FPMANZCA) are well trained to oversee these programs because of their broad training. Trainees for FPM, having completed their primary specialist qualification, need to complete a further 2-3 years before presenting for the examination. The training and examination process to achieve FPMANZCA was the first internationally, with the UK Royal College of Anaesthetists forming their Faculty in 2007. The FPM is currently providing support to colleagues in Canada and the U.S. to develop a comparable program.

The prevalence of chronic pain is projected to increase as Australia's population ages, from around 3.2 million Australians in 2007 to 5.0 million by 2050. The total cost of chronic pain in 2007 was estimated at $34.3 billion – or $10,847 per person with chronic pain. When broken down the total costs

include $11.7 billion in lost productivity and health system costs of $7.0 billion (Access Economics, 2007).

4. How adequate are the mechanisms for aligning supply and demand of graduates? How do pricing and labour market signals impact on student choices?

There is a long time lag between entry to training and practice as a specialist – this equates to a period of 7 years post-graduate training. All previous health workforce projections for Australia have been proven to be flawed. In the early 1990s there was projected to be a glut of doctors, and thus medical school intakes were dropped. More recently, intakes for medical graduates have been markedly increased to cope with a present doctor shortage. As a result, we are now faced with a large increase in medical graduates and associated significant planning issues to accommodate the influx because of a separation of Commonwealth/State responsibilities for producing/employing.

The main determinant of the numbers of anaesthetists in training is the capacity/need of hospitals to employ anaesthesia registrars to undertake work. The numbers have increased, as the hours they work have decreased (to improve safety and decrease fatigue). There is a mal-distribution of specialists, with undersupply of rural practitioners

To ensure transparency of process and equality of access to training positions, the means of recruitment and selection of trainees needs to be standardised across the health system. ANZCA has agreed to support the selection of trainees according to the MTRP (Brennan) Report of 1998, and this is supported by the AMC, MTRP, ACCC, and the State and Territory jurisdictions.

The load on all specialists who train and teach will increase with the predicted doubling in numbers of medical graduates by 2012. It is the same specialists who teach and supervise the medical students, the junior doctors and the trainees. The increased number of IMG specialists on conditional registration also increases demands on the same supervisors who are supervising trainees. Effective and long term solutions will be required to address the increasing need for trainee supervision, let alone the current unmet need.

Providing dedicated resources for training as well as new Workplace Based Assessment (WBA) tools will assist future supervisory requirements as well as enhancing the quality assurance mechanisms to monitor the educational experience of trainees. However the new WBA tools will also increase the supervisory requirements at the workplace as the assessments will require greater time and resources in terms of training to deliver the assessments.

Initiatives are needed to coordinate clinical placements that consider the training needs of all health care students. This includes all health care professionals (e.g. medicine, nursing etc.) at both undergraduate and postgraduate levels. This requires a degree of co-ordination and co-operation between government agencies, health care employers and providers of undergraduate and postgraduate medical education that has not been in evidence previously.

Rural Health Workforce

ANZCA is involved in a program that trains and supports general practitioners to provide anaesthesia services in rural and remote areas, through the Joint Consultative Committee on Anaesthesia (JCCA). This is a tripartite committee with representatives from ANZCA, the Royal Australian College of General Practitioners (RACGP) Rural Faculty, and the Australian College of Rural and Remote Medicine (ACRRM).

The goal is to equip General Practitioner Anaesthetists (GPAs) with enough skills to provide an appropriate level of anaesthesia services. GPAs are encouraged to know their own skill boundaries as their level of training is not as extensive as specialist training. GPAs often work with some form of specialist support. This specialist support is at variable distances depending on the GPA's location.

5. Are there particular examples of good practice where you can demonstrate either rapid response to skill shortages or successful initiatives to improve generic skills?

ANZCA has been very proactive in leading the world by supporting the development of the disciplines of intensive care and pain medicine through the formation of the Faculties and the associated education, training, and examination processes.

Anaesthesia Care Team

Australian surgeons and anaesthetists have developed a team approach which has resulted in a very high standard of pre, intra and post-operative care with one of the lowest mortality rates in the world.

In parallel with the general requirement for more health care workers, the demands on anaesthetists are also increasing. Pre-operative patient review, informed financial consent, and preparation for anaesthesia and surgery has been identified as an area for review and will require greater input in the future (Roizen, 2006). Post-operative care, from the recovery room to follow up on the ward, or management in hotel type accommodation, will equally benefit from greater input, to assist in management of pain and complications of surgery and anaesthesia (Ludbrook, 2008).

Anaesthetists are well placed, having both the medical skills and knowledge to drive initiatives to enhance patient care perioperatively (pre and post surgery), ideally, in partnership with surgeons and physicians. To date there has been a lack of capacity. Whilst this may be addressed by enhanced training opportunities now in place for anaesthetists, there may be roles which anaesthetists feel are appropriate for delegation to others. The advantages of a team approach in anaesthesia have been demonstrated in other parts of the world. However, the composition of any team, and their specific roles, should be applicable to the Australian context, especially with consideration of workforce projections for all healthcare workers, and must be of proven benefit.

ANZCA has been at the forefront of utilising nurses as assistants as part of the anaesthesia care team. For as long as there has been anaesthesia, nurses have assisted the anaesthetist in the operating theatre, and in the recovery room (post-anaesthesia care unit). More recently, nurses have assisted anaesthetists in pre-anaesthesia clinics and acute pain services in the wards, and are members of medical retrieval teams. Anaesthetic technicians are also used in many hospitals to assist in the operating theatre. Further initiatives involving physician assistants and nurse clinicians are being investigated.

Sedation for Colonoscopy

Some 30% of anaesthesia services are now provided outside the operating theatre, mainly for procedures such as endoscopy, interventional radiology, invasive cardiology, resuscitation, and acute pain. This was mentioned by AMWAC (2001) as a "developing unmet demand". The demand for anaesthesia support to facilitate these procedures is increasing predictably and dramatically. Where anaesthetist support is unavailable, other clinicians are currently providing sedation, despite increasing awareness of the dangers associated with administration of sedative/hypnotic agents for sedation (Grant et al., 2008).

An example of a recent major concern over sedation for colonoscopy has resulted in a request by the NSW Greater Metropolitan Clinical Network's Working Group on Sedation for Endoscopy for ANZCA, the Gastroenterological Society of Australia (GESA) and the Royal Australasian College of Surgeons to review their joint guidelines. The new guidelines are available as "Professional Document PS9" (ANZCA, 2008). ANZCA is now developing, in partnership with GESA and RACS, a course to help train non-anaesthetists to administer safe sedation for suitable patients when anaesthetists are unavailable.

6. How effectively are Australian higher education institutions responding to demographic change, especially in providing lifelong learning to meet the challenge of the ageing population and the need for upgrading of skills and re-training?

Whilst there are reasonable limits for completing the training modules, the ANZCA Training Program is flexible with no upper limit on completing the overall program. ANZCA's training program has an excellent reputation; it allows breaks in training, part-time study, and embraces adult learning principles. The College, in conjunction with other specialist colleges, is currently reviewing recognition of prior learning (RPL) determining required principles and process.

There is a "re-entry" program - an educational service by ANZCA for anaesthetists to re-enter specialist anaesthesia practice after an absence of more than 12 months from practising clinical anaesthesia. It involves participation in a program that offers a renewal of experience in current anaesthesia practice.

The College, which is a membership organisation, maintains contact with its Fellows (graduates) throughout their practising life, and its Fellows run their life-long learning programs. From 2009 ANZCA will mandate that all Fellows take part in a Continuing Professional Development (CPD) Program.

The ANZCA CPD Program includes a self assessment of educational needs, reflection on outcomes of practice, and simulation and skills based training. As

well as training in specific technical skills, it also includes training in communication and team work, which is the basis of work in multi-disciplinary teams in modern hospitals.

ANZCA provides continuing medical education through its Annual Scientific Meeting and it's Special Interest Group Meetings which cover various sub-specialty groups and interest areas.

7. What is the relevance and applicability of the findings and approaches proposed in the United Kingdom paper, Higher Education at Work, for increasing skills levels in the workforce to Australia?

The fact that at any one point in time 75% of the specialist workforce has already undergone their specialist education means that it is vitally important to provide continuing educational opportunities for this group to allow them to keep up with the rapidly changing medical practice environment. ANZCA provides a wide range of activities in the continuing education, simulation and IT fields to cater for this need. These activities are very costly both in time and financial terms and any assistance which Government is able to provide to supplement the strong commitment from the profession will be well spent. Access issues also become important (e.g. for rural practitioners).

Section 3.2 Opportunities to participate in higher education

8. Should there be a national approach to improving Indigenous and low SES participation and success in higher education?

A serious approach is required with incentives to promote higher education among indigenous and rural/remote populations. The approach needs to be a long-term one and commence at the pre-school stage, with appropriate support that is culturally sensitive, and the promotion of relevant indigenous role models. The Australian Indigenous Doctors' Association should be consulted further regarding appropriate strategies.

The Auckland University Medical School has a support group for Maori students – it is run by Maori staff, and helps them with their studies, as well as the social adjustments required. As a bi-national organisation, the College has a strong commitment to indigenous communities, particularly our experience in New Zealand via our Maori Fellows.

Section 3.3 The student experience of higher education

12. How can the quality of the student experience within Australia's higher education institutions be monitored nationally? Is there evidence that declining student: staff ratios have impacted on the quality of the student experience?

In the forthcoming ANZCA curriculum review, one of the main elements of work will be to develop appropriate mechanisms to monitor students' experience of the ANZCA Training Program. This will result in valuable detailed feedback to enable the program to be continuously revised and improved in the future.

13. How can the quality of learning outcomes in Australian higher education be measured more effectively?

ANZCA examines anaesthesia related mortality data every three years and publishes a report (ANZCA, 2006) based on figures from the State Health jurisdictions. Australia has a very low anaesthetic mortality rate compared to the rest of the world.

ANZCA, in association with the Australian Society of Anaesthetists (ASA) and the New Zealand Society of Anaesthetists (NZSA), has formed ANZTADC – the Australian and New Zealand Tri-partite Anaesthesia Data Committee to improve the safety and quality of anaesthesia for patients in Australia and New Zealand by providing an enduring capability to capture, analyse and disseminate information about incidents (de-identified) relative to the safety and quality of anaesthesia in Australia and New Zealand. This high cost initiative will result in increased safety to the health system. More support by Government for this type of initiative would be welcome.

14. How do institutions measure the quality of their learning outcomes and how do they know they are nationally and internationally competitive?

Again, the low anaesthetic mortality comparisons provide a broader outcomes measure. Morbidity data are also important here (patient outcome studies that look at other end-points that impact on patients e.g. quality of anaesthesia recovery study by Myles et al, 2000.)

Section 3.4 Connecting with other education and training sectors

15. To what extent should vocational education and training and higher education continue to have distinctive missions and how should these missions be defined?

The traditional universities provide medical undergraduate education, which forms the basis for vocational medical training. Specialist medical colleges and the universities are complimentary, working together in partnership. Universities provide specific courses for vocational trainees, such as training in research methods, and the development of distance learning modules.

16. Does the movement between the sectors of students with credit need to be improved? If so, in what ways?

The CPMC has an Education Group which shares relevant information regarding curriculum design and education development. This assists with ensuring the courses are in alignment, particularly modules that cover the more generic competencies, and with the development of a more standardised approach that facilitates inter-disciplinary movement and the recognition of prior learning. ANZCA has maintained a generalist approach to anaesthesia with one qualification that covers the entire discipline of anaesthesia. There are other fellowships for Intensive Care and Pain medicine. The CPMC Education Sub-Committee is currently encouraging all the colleges to develop uniform regulations governing recognition of prior learning to enable easier movement across disciplines during the training period so that there is more educational flexibility.

The development of International Medical Graduate (IMG) specialist assessment procedures is being addressed by the CPMC, again to improve consistency of the process, with the development of agreed common pathways for assessment across the specialist disciplines.

17. To what extent should relative provision between the sectors be planned or demand driven. What are the effects of current differences on funding, governance and regulation in limiting planning or influencing choice between the sectors?

ANZCA's work on sedation (see above) was driven by the demand from proceduralists (nurses and gastroenterologists) to address the gap in care between public patients, who had by comparison poor quality sedation for endoscopy, and private patients who had anaesthetist care. This led to nurses and gastroenterologists requesting improvements in public hospitals. A working party (convened by ANZCA) with relevant input from specialist anaesthetists was established to address the issue.

18. Can institutions provide examples of good practices which have led to movement between the sectors with high levels of credit and good learning outcomes?

Recognition of prior learning has resulted in the acceptance of relevant training from other specialist colleges such as the Royal Australasian College of Surgeons (RACS) and The Australian College of Emergency Medicine (ACEM). As described previously, the Faculty of Pain Medicine (part of ANZCA) is multi-disciplinary and accepts training from five colleges; (Anaesthesia, Medicine, Psychiatry, Surgery, and Rehabilitation Medicine).

Section 3.5 Higher education's role in the national innovation system

19. By what mechanisms should research activities in Australian universities be supported?

ANZCA recommends that more funding for clinical research fellowships be provided particularly for trainees or recent Fellows, to promote continuation of research whilst also practicing clinically. This has obvious benefits in linking the application of research to practice, and vice versa.

21. Do you believe there is a place in Australia's higher education system for universities that are predominantly 'teaching only' universities? If so, why?

From ANZCA's perspective, teachers and researchers usefully collaborate with each other in the university sector, as the two are inextricably linked – the teaching being informed by current research.

Section 3.6 Australia's higher education sector in the international arena

24. Can you provide any examples of good practice in encouraging local students to undertake study in other countries?

There are many advantages for trainee anaesthetists in obtaining overseas experience either during training or in the immediate period after training, particularly in the area of research, and to gain experience in highly specialised areas. This helps them to be more open to alternative approaches to healthcare. In the clinical area, there are benefits to Australia from clinicians obtaining experience in leading institutions overseas. It also provides a measure of our standards and international competitiveness. Some examples of this overseas experience includes echocardiography and ultrasound guided nerve blockade.

International exchange fellowships provide great value to the health care system and should be encouraged at an international level. Currently there is an issue with the European Union in facilitating such schemes. Australia is now establishing arrangements through COAG, but there needs to be discussion at Inter-Government level.

Section 3.7 Higher education's contribution to Australia's economic, social and cultural capital

26. Do you believe that knowledge transfer and community engagement are legitimate and appropriate roles for contemporary higher education institutions? If so, how do you see this additional role for the higher education sector blending with its traditional roles and are there limits to these additional roles?

In medicine, knowledge transfer has always occurred from specialists to hospital doctors and GPs and to nurses and allied health workers, to the point where many groups have become (almost) self sufficient. Fellows of ANZCA, over time, have contributed enormously to resuscitation by groups such as electrical workers, train workers, and surf life savers. JFICM and ACEM Fellows have become involved with ambulance crew. Fellows play a major role in Medical Advisory Committees and as teachers in Ambulance Services in all States and Territories.

ANZCA is currently investigating new ways of engaging with the community through the provision of community information as well as the involvement of community representatives on ANZCA committees. Anaesthetists, as part of the pre and post- operative assessments, are able to provide community education and active interventions to promote healthy lifestyles. Anaesthetists are well placed, as a result of the impending surgical procedure, to encourage

patients to quit smoking, reduce their alcohol consumption, reduce weight as appropriate, and to adopt healthy lifestyles.

Section 3.8 Resourcing the system

28. What incentives or unintended consequences are there in the current arrangements for higher education funding?

As alluded to earlier, demand and supply issues for the Australian health workforce are not well understood. There is often a "disconnect" between Commonwealth/State jurisdictions with respect to supply/demand issues. An improved process for national uniform workforce data collection and analysis is urgently required.

29. To what extent are the current funding models adequate to secure the future of Australia's higher education sector? If there are better models, what are they?

Anaesthesia trainees provide a valuable clinical service to public hospitals and in return the hospitals have a commitment to train them. The supervision and monitoring of trainees is critical to their development as professional specialists, and therefore to the quality of care they deliver, requiring adequate resources and sufficient allocation of time to ensure training occurs.

There is inadequate financial support for vocational training within the hospitals. Support for Supervisors of Training (and module supervisors) who are employed by the hospitals, as required as part of the ANZCA Training Program, is inadequate and increased resources are needed to fulfill these responsibilities. Dedicated funding to allow attendance at relevant training workshops and continuing education initiatives is required.

Section 3.9 Governance and regulation

31. Is it time to reshape tertiary education in Australia and streamline financing and regulatory arrangements? If so, what structural changes would you make and why?

A review of current health workforce funding is required so that the *education* requirements for postgraduate specialist training are seen as a priority, and are not in competition with funding for *services* within the health portfolio. Dedicated funding for higher education needs to extend into the health workforce arena to ensure adequate training occurs that is safe, appropriate and effective.

The development of web-based on-line education across the country would provide enormous benefits. ANZCA supports the provision of more resources into this area.

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