

Australian and New Zealand College of Anaesthetists (ANZCA)

Curriculum Review Project

SUBMISSIONS SUMMARY REPORT

Teaching, Learning and Assessment methods
Processes to manage and enhance the quality of the programme
Operational matters associated with the curriculum

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Introduction and background to the ANZCA Submission

Summary Report

To officially begin the ANZCA Curriculum Review process, the ANZCA Curriculum Review Working Group (CRWG) invited submissions from all stakeholders in the ANZCA Training Programme and/or ANZCA Teacher Development and Support Initiatives. Submissions were open from October 2008 until January 2009 (inclusive). Full details of the Submissions Process can be found online at:

www.anzca.edu.au/edu/projects/curriculum-review/submissions/

While this was an open call for submissions, invitations to a number of groups and individuals were also made, to encourage input from key stakeholders. Further details on the specific invitations sent can be found online at:

www.anzca.edu.au/edu/projects/curriculum-review/submissions/invitations

Submissions to the ANZCA CRWG were open and could be made by any group or individual having an interest in the ANZCA Training Programme and/or ANZCA Teacher Development and Support Initiatives. A group submission could be made by any combination of individuals, including any: organisation, institution, committee, sub-committee, working-group, interest group, hospital team etc.

The submissions process enabled respondents to convey views on the following to the ANZCA CRWG:

- opinions and suggestions regarding the current ANZCA Training Programme;
- a suggested set of desired outcomes of ANZCA training (e.g. the knowledge, skills and professional attributes an ANZCA trainee should possess upon completion of training);
- ideas for innovation within the ANZCA Training Programme;
- ideas for a comprehensive clinical teacher training and support programme for ANZCA Fellows; and
- other information that might have been relevant for a comprehensive curriculum review.

Submissions made to the ANZCA CRWG were used to guide the process of curriculum review for the ANZCA Training Programme. In particular, the information supplied has assisted the process of creating a set of desirable outcomes of ANZCA training. In addition, any information provided in the submissions, relating to ANZCA clinical teacher development and support was forwarded to the ANZCA Clinical Teacher Development Working Group (CTDWG) for their consideration.

A total of 132 submissions were received by 31 January 2009. A collated version of the submissions received can be found here:

www.anzca.edu.au/edu/projects/curriculum-review/submissions/received

A comprehensive thematic analysis of the content provided in the submissions was undertaken and the resulting summary report follows. This report includes information from the submissions on:

- Teaching, Learning and Assessment Methods;
- The processes undertaken to manage and enhance the quality of the programme;
- The operational matters associated with the curriculum.

Where references are made within this report to specific submissions, the submission identifier (e.g. S_001) is given. For a key to submission identifiers, see [Appendix 1](#).

This report does *not* include submission content related to the ANZCA teacher training and support initiatives, however a separate report on this topic will be prepared and made available in due course.

The report does *not* include information from the submissions regarding desired outcomes of training under the roles within the CanMEDS Curriculum Framework. Instead, the submissions information on this topic was used to develop the ANZCA Curriculum Framework. This framework was based on CanMEDS, which is an internationally recognised and objectively researched framework, used by many different medical specialties worldwide. Extensive consultation and refinement work was conducted to develop CanMEDS to be relevant and applicable for local use. The ANZCA Curriculum Framework aims to explicitly define all aspects of contemporary anaesthetic practice for Fellows of the Australian and New Zealand College of Anaesthetists.

A. Teaching, learning and assessment methods

Content

The discussion related to course content is divided into three main sections: general training, including basic science, core competencies, professional roles and subspecialty areas; the module system, including comments regarding specific modules; and a brief section on the CanMEDS Roles. See Table 1 for a breakdown of the numbers of submissions commenting on strengths and weaknesses in these areas as well as those making suggestions for change and innovation.

Table 1: Components of content by the number of submission commenting on strengths, weaknesses and innovative ideas.

	Strengths	Weaknesses	Innovative Ideas	Total N of Submissions
Content	63	74	67	116
General training	21	37	40	72
<i>Basic science components</i>	5	5	1	11
<i>Core competencies, skills</i>	-	13	12	24
<i>Professional roles, qualities, skills</i>	1	6	22	27
<i>Module material</i>	-	-	7	8
<i>EMAC, EMST</i>	7	6	1	13
<i>Emphasis on subspecialty areas, skills</i>	7	24	3	33
Module system	54	58	49	103
Training for CanMEDS Roles	-	-	11	11

Submissions praise the College for upgrading the quality and content of the training programme in a short period of time. It was perceived that it now covers the **appropriate areas of knowledge and skills required**, without major gaps in its elements. The potential of the modules was viewed as providing a comprehensive curriculum, integrating basic science, theoretical and practical/clinical aspects.

The curriculum is considered to be determined by its specialty members. Participants recognized that it requires regular updating by experts to remain current and to **quickly reflect changing knowledge and skills**. For example, it was felt that the sudden increase in the perioperative use of ultrasound is not reflected in the static curriculum, some peripheral areas of physiology and pharmacy could be deleted and other areas included i.e. equipment, patient safety and crisis management. It was recognised that proofreading of curriculum materials needs to be meticulous.

*The program appears to **work well across national boundaries** and is exemplar to our sites in South East Asia with regard to development of their own programs (S_032).*

The **major weakness** identified by the submissions is that the **knowledge base is not formally taught**. As a consequence of the apprenticeship model of training, significant **differences in trainee exposure to clinical cases** can occur. To address this, one submission suggests:

Relate the syllabus content to the issues faced by practicing anaesthetists, through mass diary recordings, focus groups and from mortality and morbidity data (S_051).

Recommendations arising from the submissions include **revising the syllabus** to provide clearer lists of required knowledge in clinically relevant areas. Other criticisms of the content include some redundancy or irrelevance and some aspects are considered too theoretical. By comparison, gaps identified in current curriculum are:

- anaesthesia for orthopaedic surgery;
- use of ultrasound;
- neuroscience and molecular biology;
- statistics;
- content related to human factors, error causation and error analysis.

Generally focussed training

The submissions report that the training programme is comprehensive; all trainees are exposed to major areas of anaesthesia practice, building a good general knowledge base and fostering experience in a variety of hospitals. The content appears broad ranging, with a one-size fits all approach to favour the needs of a specialist working in a general hospital.

Views expressed were that the curriculum, assessment procedures and hospital inspection requirements, should all **stress the importance of activities outside the operating room**.

Despite the current curriculum, many anaesthetists still see their main role as in the operating room (OR) ... "Doing" anaesthetic outpatients or acute pain or management is often seen as a lesser, and less important, role (S_056).

Day surgery constitutes 60-80% of anaesthesia in most centres, but reference to it in the syllabus is piecemeal. It was felt that this should be pulled together coherently within the course.

See S_046 for suggestions about the **sequencing of training** to give sufficient exposure to 'round out' anaesthetists.

Basic science components

There was support for the fact that the current programme recognises that a sound understanding of physiology and pharmacology is essential for a competent anaesthetist. Examinations in physiology and pharmacology were perceived to set a baseline for knowledge required to progress in clinical work. A view expressed was that ANZCA needs to ensure that basic science teaching, learning and assessment continue because this underpins research.

The basic science syllabus seemed to contributors to have **too little emphasis on science applied to anaesthesia**, and this narrow focus detracts from clinical training. Recommendations to address this view included:

- incorporating anatomy into the course early in training, emphasising ultrasound imaging;
- making the basic science syllabus publicly available and integrated into the programme.

Core competencies and skills

A concern expressed related to the perceived absence of a **list of core competencies** and guidelines on how they should be taught and assessed. Further concerns included that non-technical components of the training are not formally assessed and that practical skills are neither taught to a consistent structure, nor assessed consistently.

Teaching and assessment of procedural competence should be more formalised. At BTY level this would include airway skills, vascular access skills and some regional skills (S_022).

Core skills should be taught and assessed systematically... For example, ultrasound-guided insertion of Central Venous Catheters (S_057).

Recommendations included that the College should **define and specify the minimum competencies** that all ANZCA Fellows should have after training and identify core knowledge, skills, behaviours and attitudes for each level of training. Also that each subspecialty area should develop agreed outcomes of training (see, for example S_051). A further recommendation made was that the College should plan for module completion to be, in some part, competency based rather than entirely time (session) based.

Uniform delivery of teaching material; integration of **simulation**, increased **centralised teaching** of core competencies and **standardised assessment** of these competencies are strongly supported. Three examples are provided:

... centralised teaching could be accomplished by a "Gas School" similar to the orthopaedic trainees' "Bone School". A state based education program provided for all trainees, with availability of non-clinical time mandated by the College. This would help to standardize training for trainees coming from different rotations (S_013).

From Kneebone and colleagues: ... technical skills training has been combined with training in communication and other non-technical aspects of the procedure to allow procedural skills to be learned in context (S_022).

STATS (Systematic Training and Assessment of Technical Skills) system ... includes assessment of knowledge, simulation performance, and real world performance before trainees can practice independently (More detailed discussion is provided in S_022).

There is strong support for **non-patient based learning** and trainee assessment, e.g. for neuro-axial block training to improve the acquisition of skills and potentially improve safety.

Contributors considered that accreditation of a Department by ANZCA should infer a high standard of clinical care and a faculty suitably qualified and resourced to maintain this optimal standard (see S_030).

Level 1 supervision is perceived to be a strength of the programme, providing trainees with appropriate levels of practical skills attainment and an understanding of clinical decision-making. It was recommended that ANZCA should specify minimum time conducting module and non-module lists to clearly define what is priority training versus service delivery. A short structured credentialing process prior to progression to level 4 supervision is thought to be needed to enable trainees to cope safely.

Professional roles, qualities and skills

Submission S_096 noted as a strength that:

Trainees are expected to develop the attitudes and behaviours which are obligatory in specialist medical practice (and) to commit to, and believe in, ethical and professional principles (S_096).

Current training, curriculum, module structure and examination process are seen to promote an **emphasis on the role of medical expert at the expense of non-clinical skills**. The current curriculum is perceived to pay insufficient attention to the roles of Collaborator, Manager, and Professional. Elements identified for expansion or greater emphasis include team work and team communication, patient communication, and the importance of CPD and self reflection.

Other professional skills and roles are taught through modelling and the often fortuitous exposure to mentors and teachers who are skilled in teaching these areas. Sometimes, professional skills are learnt through trial and error after graduation (S_006).

See S_118 for reference to an article on the experience of modernising Dutch postgraduate programmes around these roles. See also sections on Modules 2 and 12 below for further discussion on this topic.

The submissions recognised that many junior doctors have teaching and supervisory responsibilities. Teaching skills and qualifications can assist them with these activities and prepare them for their professional responsibilities as consultants. To enhance their own learning, formal arrangements could be made for trainees to teach the practical skills required by medical students. The College's introduction of clinical teacher workshops is a welcome initiative.

Colleges such as the ANZCA need to introduce appropriate curricula that encourage and equip registrars, fellows and consultants to provide quality teaching in conjunction with medical schools and hospitals (S_100).

(Adult education) is not taught at any stage during medical training and it should be if specialists are expected to be clinical teachers. Identifying those with the aptitude for teaching and encouraging them to undertake post fellowship training would be good (S_010).

Documentation was recognised to be key to meeting professional ethical expectations as well as more pragmatic areas of legal requirements. However, documentation by anaesthetists was often perceived to be inadequate (see S_117). It was therefore felt that training should **emphasise the importance of complete and accurate documentation** for research as well as being vital for patient care and fulfilling legal requirements.

Nowhere in the current ANZCA Modules does Trainees get formally assessed for their day to day documentation which is frequently noted to be inadequate and at times confusing. Not surprisingly, this trend continues when they qualify and practice as Consultants (S_086).

Promoting research by more formal training and assessment, with emphasis on understanding research methods and critical appraisal of literature was considered important. It was thought that it may be an advantage to retain the formal project during training and also encourage higher postgraduate degrees, including through bursaries and scholarships. To foster research S_007 suggests:

... at least one hospital takes responsibility for research and helps to foster it throughout the rotation. This could be incorporated into the accreditation process undertaken by TAC (S_007).

A further suggestion was that there should be a **formalised mentorship programme**, under the auspices of ANZCA, operating at all levels of training. Its characteristics might include: voluntary participation, training for mentors and provision of a mentor other than from the trainee's hierarchy or assessors.

EMAC and EMST Courses

Submissions strongly affirm the quality and success of these courses and suggest that, because they are different in both content and context, **both should be required**.

I would recommend that it (EMAC) becomes compulsory in its own right, while retaining EMST as a second compulsory course. The use of simulation protects patients, allows experiential learning, allows explicit teaching of CanMEDS roles of collaborator, communicator etc (S_074).

It was considered advantageous for both the EMAC and the EMST courses to be undertaken **early in training**.

EMST prior to being on the after hours roster might be valuable. An EMAC course at the start of training with an emphasis on crisis management would be good, a further EMAC course at the end of training perhaps post part 2 with an emphasis on leadership, resource management and human psychological factors would also be valuable (S_010).

Emphasis on subspecialty areas and skills

Some submissions argue that the module curriculum structure increases trainee focus on particular areas and clearly documents College requirements, ensuring a **benchmark level of exposure to each subspecialty**.

*The requirement for specific volumes of experience has promoted **more even access** to sub-specialty experience (S_015).*

However, there is a variety of opinion regarding the emphasis on subspecialties in the programme. S_002, for example, supports the current aim of **producing strong generally focussed anaesthetists**, with the expectation that exposure to subspecialty areas will be limited, and will happen increasingly in post-Fellowship training. S_092, on the other hand, values a **broad range of experience in subspecialty** areas, and a varied case load, as beneficial to a general anaesthetist's training, while recognising that some modules are difficult to achieve for some trainees. S_022 argues there is an over-emphasis on subspecialty anaesthesia to the detriment of 'bread and butter' anaesthesia.

Proposal; abandon case-load requirements, rationalize module knowledge requirements for “generalists”, develop “specialist modules” for advanced training (S_022).

See also further discussion on managing the emphasis on subspecialties in the following submissions S_006, S_017 and S_051.

In some ways the sub-specialty emphasis in the module system creates imbalances in the employment patterns of registrars as well as the strong (and possibly unbalanced) training focus on sub-specialty practice (S_006).

One state organises state-based rotations to expose all trainees to a broad range of practice and to all subspecialties. In other places, trainees experience ‘**bottlenecks**’ in some subspecialties, which, it is suggested, may be improved with the provision of specific rotations during training.

Particularly, contributors do not agree about the number of sessions or level of expertise required for completion of the following modules: paediatric, obstetric, cardiothoracic, neurology and advanced pain components. This area was identified as requiring further work to determine an appropriate and workable consensus.

Submissions also recommend the enhancement of learning, teaching and/or assessment in the following areas:

- use of ultrasound in anaesthesia;
- acute and chronic pain management;
- pre-anaesthetic assessment;
- sedation/anaesthesia for procedures outside theatre;
- research;
- non-technical skills;
- career planning;
- infections disease and requesting and interpreting laboratory tests;
- anaesthesia in the austere environment;
- exposure to increased ambient pressure to be included in the core physiology curriculum;
- vascular anaesthesia with major surgery;
- regional anaesthesia (see below);
- perioperative medicine (see below).

The **exponential growth of regional anaesthesia** and **procedural sedation** was identified as having implications for the curriculum. For example, it was considered that setting minimum standards for each department will facilitate high level training, and promote consistency in emerging graduates (S_030).

Current training in, and exposure to, regional anaesthesia was considered to be poor and diffuse, spread throughout various modules.

... graduates emerge with limited skills, without a consolidated view of RA, and viewing regional blocks as only adjuncts in some types of surgery. Inexperience leads to avoidance or complication (S_030).

Methods of teaching and assessment of trainee competence prior to independent practice are judged to be a weakness of the programme. The teaching of the clinical skills of regional anaesthesia was reported to remain largely patient-based (S_029). It was considered that there is currently **no recognised system for either development or assessment of skills** in regional anaesthesia. One concern to respondents was the fact that there is no requirement to successfully perform any type of regional anaesthesia prior to independent practice. This was of particular concern due to the potential for adverse patient outcomes with this technique. It was highlighted that Ultrasonography as a tool to assist in regional anaesthesia should be included in the core curriculum.

A perception expressed in the submissions was that the College had been promoting the concept of a perioperative physician. It was therefore considered to be incongruous that there appears to be **little formal teaching in the area of perioperative medicine**. Requests were made for the syllabus to address the issues specialists face or clarify their responsibilities in these areas. Submissions recommended a range of possible strategies to address this issue from the College considering 2 years basic medical/surgical experience for a trainee to gain the Fellowship to other suggestions for inclusion in the curriculum:

Perioperative Medicine should become a module. Preoperative assessment and risk stratification is now an essential part of base hospital practice and a knowledge of perioperative management and how it determines outcome is essential to the safe practice of anaesthesia (S_067).

The Module Programme

Overview of the Module Programme

This section presents general issues raised in relation to the Module Programme. Comments relating to specific modules are presented in the second section (Modifying the Modules), while suggestions for additional topics and modules are presented in the third section, Adding to the Module Programme (see Table 2). Tables 2 and 3 respectively set out the breakdown of the numbers of submissions commenting on strengths and weaknesses in relation to the individual modules, and the topics suggested for inclusion in the Module Programme.

Table 2: The Module System: breakdown by the number of submissions commenting on strengths, weaknesses and innovative ideas.

	Strengths	Weaknesses	Innovative Ideas	Total N of Submissions
Module system	54	58	49	103
Overview of the module system	-	3	8	56
Modify modules, topics	-	-	7	28
Add modules and/or topics	-	3	7	32

Some submissions consider the module training programme to be well designed, with twelve consistently structured modules covering clinical content clearly and comprehensively. The module structure was identified as being well outlined on the ANZCA website.

The modular framework provides a useful map for trainees which allows them and their trainees [sic] to plan their experience and learning (S_018).

Modules are considered to be logically organised, dividing the curriculum into approachable amounts with broad descriptions of the clinical knowledge, abilities, technical skills and professional attitudes required. It is considered that this approach allows allocation of curriculum areas to different parts of training and attempts to set a logical progression of training from basic to advanced. Practically speaking, it is believed that this helps to ensure all trainees receive appropriate exposure to the full breadth of anaesthesia practice and that major subspecialty areas are experienced. It is suggested that all modules identify Basic, Advanced and Pre-specialist components, making explicit core knowledge, core skills, behaviours and attitudes appropriate for each level of training.

Current curriculum modules are simple lists, which need more editing and refinement, e.g. the depth in which knowledge / skills are required (S_074).

The module system is perceived to be transparent, with a clear articulation of the required sequence of the programme and modes to document a trainee's progress, making it easier to identify deficits in individual training.

One submission comments that the organisation of the modules is:

..... assembled and published in a haphazard way, with little concentration on coherence or progression (S_078).

It is thought that the module system offers **flexible learning opportunities but with some limitations**. Splitting the curriculum between modules helps trainees increase focus on particular areas. A recognised limitation is that this can narrow trainee focus as they are reluctant to explore areas of anaesthesia outside that specified in modules. Once modules are completed there is a tendency for trainees to forget them.

Modular system lends itself to trainees specifically goal-seeking through their training period. We find that trainees are very interested in completing the next module on their list, and are proactive in attaining it, but often at the expense of other learning opportunities (S_004).

When **areas of high clinical importance** (e.g. acute pain management, pre-op assessment and regional anaesthesia) have relatively low weighting in the module system, these aspects are **considered to be downplayed** by both the trainees and the department in which they work.

...competition between registrars for access to lists, can lead them to inappropriately undervalue exposure to lists with lesser, or no, modular requirement. For example, orthopaedic lists are viewed as 'service lists' instead of an opportunity to learn (S_057).

It was judged that content defined by the modular curriculum needs to be reinforced by a comprehensive and complementary range of experience in practical 'on the job' training. One submission notes that this:

... provides useful leverage to trainees to gain fair rostering to sought-after lists in order to gain sufficient experience" (S_060).

One submission highlights the perceived benefit of structured clinical experience as follows:

... it is probable that the increase in pass rate for the final examination coincided with a cohort of trainees presenting who had been required to undertake clinical experience in the required sub-specialties. Prior to that, there was no compulsion for experience in any of the sub specialties (S_074).

It was recognised that the module materials could be improved. Suggestions include:

- extending the curriculum with more teaching materials;
- supporting each module by a lecture series accessible via the College website;
- providing more informative guidelines, especially on how to meet module requirements;
- deleting repetitive material;
- having all modules internet based.

The desirability of centralised and standardised teaching of core competencies to be required prior to commencing independent, unsupervised anaesthesia practice was highlighted (S_092).

The modular learning objectives are considered very broad and not always defined in terms of the specific outcomes trainees need to attain. Specific feedback included the suggestion that it would be useful for the objectives to be structured to include verbs, to indicate the level of skill, knowledge, attitudes required and to be measurable.

It may also be useful to write the learning objectives at different levels so that continuous learning is encouraged (S_108).

One submission (S_119) commented on the impact of the objectives on trainee learning and suggests learning objectives are "too vague" and "highly prescriptive" and "put trainees off reading the modules further":

... the real risk with the current module objective is that they introduce a "dumbed down" tick the box style assessment style (S_119).

See S_101 for detailed suggestions to improve the wording of the text in most modules.

Some trainees report poor supervision and/or **poor support for specific modules** in some training hospitals, and feel it is difficult to achieve the required learning objectives and/or experiences.

A suggested way of improving modules and their implementation would be the appointment of paid faculty of specialist anaesthetists with responsibility for each module:

These would develop curriculum including teaching and assessment methods and be a resource for training scheme module supervisors and respond to the changes in anaesthesia knowledge and evidence based practice by regularly updating curricular content (S_119).

Modules specify minimum levels of clinical exposure, but **quality of clinical training** offered to trainees from different hospitals and the access provided for affiliated and non-affiliated registrars **varies widely** from the perspective of contributors. See submission S_013 for a fuller discussion of this point. Other submissions mention:

- Some requirements for specific volumes of experience can delay module completion and progression through the training programme;
- Specifically, it is difficult to achieve the required amount of experience required in the areas of cardiac, neuroanaesthesia and paediatrics;
- Trainees not on a rotational training programme may receive a different type of training to that available to other trainees;
- Opportunities for exposure to specific training experiences may not coincide with the desired progression through the various levels of the programme e.g. Cardiac Anaesthesia experience in AY1-2 rather than BY1-2;
- Requirements for experience in the subspecialties sometimes places trainees in competition with Fellows seeking extra subspecialty experience.

It was recognised that the modular approach to medical training could facilitate **links between medical colleges on generic modules** and that there may be some benefit from reviewing the articulation between the prevocational curriculum framework and the College programme.

Modifying the Modules

This section sets out observations made in relation to specific Modules. Module 11, which includes the Formal Project, attracts most comments (see Table 3). Modules 2 and 12 are seen to be closely related and also attract a range of comments. Modules 5 to 7, on the other hand, attract little or no comment.

Table 3: Modules: breakdown by the number of submissions commenting on strengths, weaknesses and innovative ideas.

	Strengths	Weaknesses	Innovative Ideas	Total N of Submissions
Module system	54	58	49	103
Module 1: Anaesthesia and Pain	1	3	1	6
Module 2: Professional Attributes	5	5	2	18
Module 3: Anaesthesia for Major & Emergency Surgery	-	5	2	7
Module 4: Obstetric Anaesthesia and Analgesia	1	3	2	6
Module 5: Anaesthesia for Cardiac, thoracic and vascular surgery	-	2	1	2
Module 6: Neuroanaesthesia	-	-	-	-
Module 7: Anaesthesia for ENT, Eye	-	-	-	1
Module 8: Paediatric Anaesthesia	1	2	1	4
Module 9: Intensive Care	-	5	4	12
Module 10: Pain Medicine	1	2	2	6
Module 11: Education, scientific enquiry, Formal Project	8	7	6	38
Module 12: Professional Practice	5	5	2	17

Module 1: Anaesthesia and Pain

Module 1 is an introduction to Anaesthesia and Pain Management. Through it, and Module 10, trainees are exposed to pain medicine. Currently Modules 1 and 10 are considered to be **comprehensive in general** in terms of knowledge content. They could be improved by addition of some further topics and reduction in emphasis of others. For detailed discussion see S_023.

Overlap was identified between the current Modules 1 and 3.

Within any hospital, there will be components of 1 and 3 on a particular operating list, and the distinction between what is introductory and what is major is somewhat artificial (S_020).

S_041 suggests the important clinical learning of modules 1 and 3, which have no summative assessment, may be overshadowed by exam pressures and requirements.

Module 2: Professional Attributes

While it was recognised that there is merit in having a module addressing professionalism early in training, it was perceived to be placed at a time when trainees will consider it as a low priority and the self-directed nature and form of on-line assessment are not considered to be effective.

There are a number of suggestions for reviewing Module 2 in conjunction with Module 12.

Both Modules 2 and 12 contain important learning objectives which some submissions endorse (e.g. S_012) or want expanded (e.g. S_021).

The outline of aims using the “Can MEDS” framework is appropriate. A sound grounding in the understanding and application of ethics and good communication will benefit patients and doctors (S_123).

S_015 comments that both modules are “well accepted and draw little comment”, but others consider the current delivery and assessment of the modules to be poor, requiring extensive review and needing to concentrate on topics valid across Australia and New Zealand.

Modules 2 and 12 contain important learning objectives but the current delivery and assessment of the modules is poor at facilitating learning (S_092) (see also S_011 and S_012)

There is a perceived need to improve the teaching of Modules 2 and 12, including more support for teachers (see S_006 for suggestions).

Specific suggestions for reorganising the format of the two modules include:

- complete Module 2 very early in training (like Module 1);
- merge Module 2 with Module 12 and complete the resulting module throughout training (S_011, S_012);
- have a lecture series or workshops on a regional level to emphasise ongoing learning/practice of professionalism/ethics (S_014);
- undertake part of Module 2 through attendance at a formal workshop/seminar course run over a weekend like the current EMAC (S_012).

One submission suggests Module 2 might provide an appropriate location for training in the legal aspects of anaesthesia (S_081).

By comparison, there are those who, while valuing these skills, do **not** consider that they should be **part of a formal learning programme**:

We also certainly would not want our trainees taking time away from supervised lists to attend courses on communication, management, advocacy, teaching, ethics and professionalism ... (these) are skills that should be acquired prior to entering the Anaesthetic Training programme and can be “fine-tuned” either on-the-job or as a Fellow (S_119)

Module 3: Anaesthesia for Major and Emergency Surgery

Module 3 is identified as being too extensive and in need of modification. While it addresses Major Surgery and Trauma, it also covers other medical conditions. As a result, the learning objectives are considered to be broad and unclear, and actual anaesthetic time is truncated by protected teaching time, pain rounds, preadmission clinics etc.

Module 3 is a difficult module to administer from a Module Supervisor perspective & a difficult module to "complete" from a trainee perspective. This module in its present form should not be a requirement for completion of Basic Training for several reasons (S_072 - this submission also contains additional discussion of this point).

The clinical skills required of this module are judged to be **too numerous** and **too specialised to be fully achieved within the first 2 years of training**, particularly since most basic trainees are sent to lesser metropolitan and peripheral hospitals without significant trauma workloads, especially for major trauma, burns, and spinal injuries. As Module 3 must be signed off for junior trainees to proceed to ATY1, it is felt that the trauma aspect is signed off before trainees have *actually* dealt with major traumas.

Deficiency in available experience is concealed by lack of rigorous assessment of module 3 (S_041).

It is suggested that Module 3 be reformatted into two parts, an initial basic component and an advanced component for later training years. The suggestion is made that **minimum case and clinical experience needs to be set** as it is for some other modules.

Module 4: Obstetric Anaesthesia and Analgesia

Aims and learning objectives in Module 4 are considered to be well laid out. However, it is judged that learning resources are presented generically with minimal relationship to the objectives of Module 4. A suggestion is made to provide a recommended reading list to assist with the completion of the module.

Develop a list of learning resources specifically for Obstetric Anaesthesia that could be updated, e.g. annually (S_029).

The management of theatre based obstetric emergencies is a core element of Module 4. **Simulation based training in obstetric emergencies** is not currently widely available to trainees, but it is considered to be an ideal method of teaching this element. The development of a syllabus and programme incorporating this is recommended.

More clinical exposure is needed. The recommendation is made that the College needs to be more specific about the type and level of exposure required to sign off Module 4, especially exposure to tertiary level obstetric anaesthesia. (See S_093 for more detailed discussion).

The conduct of Delivery Suite drills and participation by anaesthetic trainees is not included in the current Module 4 (S_029)

The perception exist that ANZCA does not provide assessment tools related to Module 4, but that these are needed to assist in the completion of obstetric anaesthesia training. It is suggested that some of these elements could be in an e-learning format. Current validation of the completion of the module by the Training Supervisor is considered to be a subjective exercise.

The submissions point out that the practice of obstetric anaesthesia occurs in a multidisciplinary arena which is quite distinct from other fields of anaesthesia. It is felt that this is not (but should be) reflected in the development of the module which has minimal input from other bodies. The ANZCA/ASA/NZSA Obstetric SIG is willing to work with the ANZCA CRWG to develop the Obstetric Module based upon the CanMEDS model (see S_029 for a fuller discussion).

Other topics recommended for inclusion are:

- **communication with patients**, which is judged to need greater emphasis;
- **knowledge of pain management** and how epidurals affect the progress of normal labour;
- **attitudes and behaviours** affecting cultural safety and working with midwives and consumers.

Module 5: Anaesthesia for cardiac, thoracic and vascular surgery

Module 5 attracts only brief comments and views beyond those raised relating to volume of practice. Comments related to volume of practice required were included in the module overview section. The specific comments that were made can be summarised as follows:

- it is unrealistically and unnecessarily long;
- there are too many 'set' sessions;
- there should be higher requirements for vascular anaesthesia;
- there needs to be more emphasis on relevant basic clinical skills.

Module 6: Neuroanaesthesia

No comments were made in relation to Module 6 other than those related to volume of practice included in the module overview section.

Module 7: Anaesthesia for ENT, Eye

Issues raised in Module 3 relating to the need to set minimum case and line experience requirements are also seen as relevant to Module 7. Otherwise this module was not the subject of any further specific comment.

Module 8: Paediatric Anaesthesia

In general, the aims and content of the learning objectives in Module 8 are considered comprehensive.

Training in paediatric anaesthesia encompasses a core set of skills, knowledge and attitudes for all anaesthetists (S_095).

See S_095 for further discussion of this module, including detailed suggestions for coordinating curriculum content and in-training assessment, and the use of simulation environments.

One submission seeks clarification regarding when the module requires knowledge depth, and when it requires an ability to provide anaesthesia (S_041).

Issues related to volume of practice requirements for paediatrics were included in the module overview section. It was considered that problems in providing equal access to clinical experience should not alter the requirement for all trainees to be trained to a single standard.

It was felt that training in paediatric anaesthesia should not be signed off until ATY 2 level to ensure currency of training.

... most fellows will probably do "a bit" of paed and therefore need adequate training. The current 4 month module is inadequate, even in a tertiary, busy paediatric hospital. Trainees still finish with dubious airway skills and big gaps in essential knowledge and procedural skills. The volume of cases specified in the module do not adequately prepare anyone for even basic paed (S_036).

Module 9: Intensive Care

Contributors disagree about the amount of time required in ICU.

Some consider that **3 months ICU is not enough**, and ask it be increased to a minimum of 6 months for the following reasons:

- 3 months is inadequate in a 5 year scheme;
- 3 months training is not enough when giving anaesthesia to critically ill patients (e.g. major trauma or sick ICU patients) is a real challenge for many anaesthetists;
- anaesthetists are currently required to cover ICU in some centres.

S_079 offers a comprehensive discussion of possible options for addressing the issues identified.

Three submissions argue that the **ICU module is too long** and that intensive care does not need 3 months compared to other advanced modules. Some trainees (S_013) expressed concern that their previous ICU experience was not recognised as prior learning for the “core” ICU component of training. See S_087 for a detailed description of the difficulties raised by one trainee.

It was suggested that specific learning resources are required for this particular module so that the learning may be more goal-directed. e.g. Cobatrice Programme for the European Diploma in Intensive Care (S_009).

Since many intensive care units rely on anaesthetists, it was recognised as desirable and appropriate to **maintain a close relationship between the ICU and anaesthetist training programmes**, making it easier for anaesthetists to “up skill” to dual ICU / Anaesthetic Fellowship (S_119).

Module 10: Pain Medicine

All anaesthetists have to manage patients with pain and this was considered to be part of their ‘core businesses’. There exists, however, a variety of opinion regarding the place of pain management in anaesthetic training. Many trainees still see their role is to manage patients in the Operative Theatres and Recovery, leaving perioperative care to others (see S_017). Others consider **acute and chronic pain management to be core business for all anaesthetists**, but the current exposure is considered to be under-weighted in training requirements (S_056 and S_017).

See S_023 for suggestions as to how knowledge content could be improved. This submission also suggests that pain medicine may need a different mode of content delivery compared to operating theatre teaching.

... It is recognised that quality of teaching associated with Module 10 varies across many sites ... because of access to both acute and chronic pain services but also to the time constraint and enthusiasm of the teachers (S_056).

One submission recommends the removal of chronic pain requirements from Module 10. The suggestion was made that chronic pain could then be dealt with via a special interest provisional Fellowship (S_064).

Module 11: Education, Scientific Enquiry, Formal Project

There was strong support for **Module 11 and the Formal Project**. Both are seen as important and there is support for retaining them with the goal of enhancing the role of a specialist anaesthetist as a scholar.

The skills and experience gained by completing an audit/research project, etc. underpin the need for ongoing learning and the requirement for scholarly endeavour ... for the profession to continue (S_002).

This training is considered important for the individual trainee and for the profession as a whole.

Without an ability to reflect on practice, contribute to new knowledge and interpret the literature that is published we risk stagnating professionally and becoming mere hourly labourers (S_067).

Emphasis on various components of Module 11 varies between submissions as illustrated below:

- some submissions emphasise **scholarly work**;
... the ability to critically review literature is essential for every anaesthetist (S_061).
- some emphasise **clinical research**;
... participation in high quality research should be encouraged, perhaps by recognizing a period of time in research towards training requirements (S_088).
- some submissions highlight the advantage of including **life-experiences in anaesthesia**, such as working in rural, military or third world contexts (S-032) or applying research to other medical contexts.
I strongly support the continuation of the Trainee Project which does not have to be a research project but can equally be one in administration, education, technical development, etc.(S_038).

At a broader level, Fellows value the presence amongst its membership of anaesthetists with skills of scholarship and research. The completion of Module 11 is linked to achieving this outcome as it is perceived that the research work it encourages, can contribute to the scholarship of the anaesthetic community in general (S_070). It is noted that, currently, there is very **little encouragement to follow academic pursuits** in anaesthesia (S_066). It is believed that the expectations of quality in the Formal Project should be raised e.g. writing a publishable scholarly review of a topic of interest (S_068). The Formal Project is viewed as an opportunity for the individual trainee to develop scholarship in particular areas of interest.

It is recommended that the Formal Project should **be able to be undertaken at any time** within the ANZCA training process. However, S_129 suggests candidates undertake Module 11 as mandatory during basic training, since fostering scientific enquiry is a crucial goal of an educational system and can never be started too early.

Weaknesses in the module and the Formal Project are identified. For example:

The formal project, whilst a good idea, is probably too vague, and seen by many trainees as a nuisance, rather than a useful piece of work (S_020).

Regarding the relationship between Module 11 and the Formal Project (TE11), it is perceived that this:

- is not explicit (S_015);
- should be more rigorous, optional or removed (S_042);
- is not essential to specialist anaesthetist practice and should not be compulsory (S_044);

The perception exists that Formal Projects do not always meet the objectives of Module 11 and some are of low quality.

A thorough understanding of the limitations of, and statistical methods behind, clinical trials is a vital component of clinical practice. The formal project doesn't guarantee the appropriate level of statistical and experimental literacy (S_053).

Currently, there is a vast range of projects submitted - some appear to barely meet the requirements and seem to have been rushed through, and consequently do not meet the objectives (S_032).

It is felt that flexible requirements for the formal project need to be limited to scientific research, case reports or literature reviews relevant to anaesthesia completed during training. A consideration is whether trainees could elect to do statistical methods and research appraisal courses rather than a formal project.

There should be no exemptions for past degrees, courses or publications. Subject matter should be relevant to Anaesthesia or Pain Medicine (S_032).

The recommendation is made that the Formal Project guidelines need to be **more precise** in what is required; for example, a published study with the trainee being the first-named author or a full clinical trial.

The perception exists that the criteria of TE11 have the potential to be inconsistently applied, “*leading to perceptions among trainees of unfairness of process*” (S_062). **Assessment of research skills** is considered to be highly variable (a "tick-off" requirement) and that it may not reflect the amount of work that has gone into the Formal Project. A better documented assessment process is recommended before the formal project is deemed to be completed.

- There is need for a process to ensure **assessment consistency between the regions** with respect to the standard of the submissions, for example, through a formal marking process and/or cross-marking (S_046);
- Formal projects should be assessed centrally to reduce the potential for discrepancies in standards and bias (S_032);
- There is ongoing debate as to whether a **formal oral presentation or poster presentation** is an acceptable substitute for a written summary (S_046).

Several recommendations for change and improvement are made as follows:

- **Provide appropriate support** to emphasise the importance of the Formal Project. Encouragement and resources to perform research projects is considered poor and Module 11 supervision is challenging for many training sites where staff are not interested, or experienced in, research. To be successful an adequate support structure is required, for example mentors, reviewers etc.
- **Introduce resources** to help with scientific review of articles and understanding of appropriate or inappropriate statistical methods. Define, teach and assess a structured approach to reviewing journal articles. Other suggestions include establishing a database with possible topics for study and entering partnerships with universities to provide research training.

Module 11 is highlighted as one place where the non-technical **CanMEDS Roles** of Communicator, Manager, Health Advocate and Scholar can be addressed.

It was noted that Formal Project Officers are volunteers with an interest in research, however they may undergo no formal training or supervision and can be perceived to operate quite autonomously.

Module 12: Professional practice

Submissions commonly discuss Modules 2 and 12 as one entity; see Module 2 above for further details. The following points are made specifically in relation to Module 12.

The place and effectiveness of the focus on non-clinical skills within the training programme: Some argue this focus is important to ensure high quality care to patients, and endorse the ANZCA training programme’s continued commitment to quality and safety in health care. Others believe these aspects are currently underemphasised:

Professional issues included in Module 12 are underemphasised. At a minimum, there should be a module supervisor for this Module. For example, management and communication issues deserve greater attention (S_057).

Others argue that, while elements of the Module 12 curriculum (e.g. participation in conferences, research and committees) are the ideal, they are **not core curriculum activities**.

... these activities should be seen as Post Fellowship and in the domain of the Societies to organise - such as setting up in private practice, billing, accounting, life issues etc. (S_093).

Detailed arguments for **the inclusion of specific elements** are included in the following two submissions:

- S_114 advocates the inclusion of topics related to Medicare and PBS in Module 12 and recommends trainee familiarity with Medicare Australia eLearning and Medicare Australia National Compliance Programme.
- S_113 supports the inclusion of this module in the Anaesthesia training to encourage trainees to pursue areas of non-clinical practice as consultants and make crucial contributions to the organisation and development of public hospitals.

Adding to the Module Programme

Further to the discussion of specific content above, there was support for some additional modules and topics to be included in the curriculum (see Table 4).

- Eight submissions support the introduction of Airway Management as a module or focused topic (see S_024 for a detailed proposal);
- Six submissions report on the importance of Regional Anaesthesia and the importance of training in Ultrasound;
- Two submissions support a module in Perioperative medicine;
- A compulsory medical component and anatomy component are suggested;
- See S_003 for detailed discussion of Quality and Safety as a topic for the curriculum; and S_112 for details of a proposed module on medical harm and patient safety taking account of national frameworks.

Table 4: Submissions commenting on topics to be added to the module system: breakdown by strengths, weaknesses, innovative ideas and total number of submissions.

	Strengths	Weaknesses	Innovative Ideas	Total N of Submissions
Airway Management	-	1	6	11
Ultrasound	-	-	3	4
Regional Anaesthesia	-	1	4	5
Perioperative medicine	-	1	2	2
Quality and safety improvement	-	1	3	4

Training for CanMEDS Roles

The use of the CanMEDS Framework is a strategy to improve the comprehensiveness of training. It is perceived that this could be achieved more effectively by **clear articulation between the CanMEDS Framework and the module system**. S_018 expressed the contrary view that the CanMEDS roles should be separated out into their own module and taught in workshop format.

S_015 argues the need to produce not only good anaesthetists but also good people, capable of providing leadership and managing, innovating and communicating effectively. To this end the submission offers detailed ideas about the courses and teaching required to achieve this.

An issue raised was that trainee involvement in teaching medical students may contribute to the development of roles identified under the CanMEDS Framework (see S_100 for details).

Suggestions for teaching and assessing CanMEDS Roles included:

- Developing a **formal list of outcomes** in each of the CanMEDS competencies together with recommendations for how they should be taught and assessed (S_021);
- Facilitating CanMEDS Roles through lectures and workshop activities, and providing literature to support this learning;
- Making use of other programmes that are already teaching CanMEDS competencies such as communication skills;

- Teaching ethics, health advocacy etc. through problem-based learning around clinical cases (S_019);
- **Replacing the ITA** with workplace based assessments incorporating the CanMEDS Framework (S_051);
- Providing **flexibility through a points system** (cf. the CPD programme) to promote the development of individual interests (S_013).

Teaching and learning methods utilised

The discussion of the teaching and learning methods utilised in implementing the ANZCA curriculum is divided into six sections: teaching and learning approaches; learning clinical skills; teaching contexts, consistency and variability; supervision; flexibility; and support from regional College committees. Table 5 sets out the number of submissions commenting on strengths and weaknesses of these aspects of teaching and learning, and making suggestions for change and innovation.

A broad training experience, taught by practitioners (experts), supported by relevant resources and offered in diverse formats is seen to be strength of the programme, encouraging reflective practice and the development of critical thinking. However, it is pointed out that teaching and learning methods need support in the basics: how to teach, how to reflect, how to do research, how to run an educational session. It is felt that there is a strong reliance on hospital-based Fellows taking responsibility for teaching. The medical expert role is perceived to be emphasised at the expense of other roles and there is limited use of web-based learning. The module system itself is considered to be poorly supported by some training hospitals and not reinforced adequately with the current methods of summative assessment.

Table 5: Breakdown of teaching and learning methods utilised by number of submissions commenting on each strengths, weaknesses and innovative ideas.

	Strengths	Weaknesses	Innovative Ideas	Total No of Submissions
Teaching and learning methods utilised	35	36	28	66
'Apprentice' style one-on-one training, practical experience	30	14	12	42
<i>Small group learning</i>	2	1	-	3
<i>Problem based learning</i>	-	-	1	1
<i>Flexibility</i>	10	3	4	17
<i>Portfolio of Learning</i>	10	8	6	21
<i>Logbook</i>	-	-	6	6
<i>Self directed, adult learning</i>	9	3	2	13
Learning clinical skills	1	7	16	22
<i>Simulation based clinical learning</i>	1	5	14	19
<i>Learning new skills on patients</i>	-	2	-	2
Teaching contexts, consistency, variability	2	15	1	19
Supervision	8	13	2	21
<i>Supervision of modules</i>	-	7	2	8
Support from regional College committees	3	-	-	3

Teaching and learning approaches

This section included reference to apprentice-style one-on-one training; small group learning; problem-based learning; portfolio-based learning; logbook and self-directed adult learning.

Apprentice-style one-on-one training

'Apprentice' style one-on-one training is viewed as a **significant strength** of the ANZCA training programme. It is identified as the key method for teaching the medical expert role. Whilst considered that some specific competencies can be taught and assessed in isolation, complex skills like clinical decision making and judgement are thought to be best acquired through apprentice-style learning. The quality of teaching is generally perceived to be excellent producing good clinical anaesthetists.

The apprenticeship style of training is fundamental to learning to be an anaesthetist and parameters for time in supervised work and independent work are valuable (S_092).

Apprentice style training is perceived favourably for providing **practical training** continuously through the course. Workplace experiential learning, including practical theatre experience, is seen to help trainees acquire skills and competencies with the support of one-on-one supervision in the early years of training. As trainees progress, access to broad experience and varied case load is matched by increasing responsibility and this aspect is reported positively

Role models are seen to be very important to the success of apprentice-style training, so teachers must practice, as well as demand, the highest standards.

It is considered to be somewhat inevitable that apprentice-style training will result in significantly different outcomes for trainees. It is thought that any resultant deficiencies need to be addressed through other teaching and learning methods.

Small group learning

It was reported that trainees often form their own study groups and small group learning is considered to run well at most sites. The Clinical Teaching Course Module on "Teaching in small groups" is viewed to be helpful in preparing teachers to teach effectively in this format, as is recognition of training time.

Problem-based learning

Problem-based learning is valued, particularly for teaching aspects of the CanMEDS Roles as discussed above.

Portfolio

The Portfolio of Learning is viewed as a **self assessment tool** for trainees, and is seen to provide a good balance between simple log-booking of cases and *ad hoc* reflection. It is thought that learning plans, clinical experience and progress can be monitored by trainees and trainers via the module portfolio.

However, the portfolio is reported to be **underutilised** and many are **under-maintained**: for example it was perceived that modules have been signed off with no documented clinical experience; volume of practice may not be logged; and that more documentation of trainee learning points is required. It is reported that it would be advantageous to keep portfolios electronically.

Logbook

It was considered that a logbook should be mandatory, recording the trainee's procedures, skills, and case mix, and that this should be reviewed regularly by SOTs for compliance. Logbooks could be kept electronically.

Self-directed, adult learning

It was recognised that effective adult learning emphasises **self direction, self reflection** and **self evaluation**. It values reasoning and decision-making, giving and receiving feedback, and lifelong learning. Trainees develop study plans and set goals, study effectively, review learning and correct for deviations (e.g., catching up on deficient knowledge or experience). They can build on previous learning experiences with the aid of the Learning Portfolio.

The modular approach is perceived to add **structure** to the training programme by providing guidelines as to what is to be learnt, in which order, and what time frame. It is also considered to offer a high degree of **flexibility** in its delivery according to trainees' personal choices and their individual training posts.

The major weakness is seen to be that **knowledge is not formally taught**. With this style of education, there can be considerable variation in trainees' levels of knowledge. Trainees define their learning plans and goals, but may not be clear about the value of the learning portfolio and self reflection. S_014 suggests regular "self-audits" by trainees of their own anaesthetic practice to continually improve professional practice.

Learning clinical skills

The view was expressed that basic clinical skills need greater emphasis through centralised courses, formal teaching of specialised skills and assessment of competencies.

It is thought difficult to justify ethically the common practice of allowing unprepared trainees to learn new skills on patients (S_022, S_041). This method of teaching is considered to be a weakness of the programme. There are alternatives. **Formal integration of simulation as a training method** for clinical skills is seen as a major innovation allowing trainees to gain exposure to cases before working with patients; not just training for crisis management, but also for routine events and skills development.

More widespread, mandated use of simulation centres could give standardised testing and feedback a strong place in the training, with particular relevance to higher order skills and professional qualities (S_106).

Simulation based clinical teaching laboratories are thought to be accessible to trainees in all regions. These facilities offer a range of learning opportunities in addition to the formal EMAC Course.

Submissions propose diverse applications for simulation training: obstetric emergencies; developing non-technical skills; formative assessment of key competencies such as crisis management, collaborative and communication skills; to test prior to progression through training; follow-up courses for EMAC to consolidate learning; to take the simulation course "Remote Situations Difficult Circumstances Developing Country Anaesthesia Course".

Submissions refer to **simulation as both a potential learning and assessment tool**, especially in the area of formative assessment where workplace skills can be learnt, practiced and then assessed. The place of clinical simulation in assessment is discussed more fully under the Assessment section below.

See S_031 for a **comprehensive discussion** of this topic from Simulation and Skills Training Special Interest Group and the Australian Society for Simulation in Healthcare (ASSH).

Teaching contexts, consistency, variability

Many training sites are perceived to offer excellent in-house teaching programmes. There is also strong support from Fellows who provide small tutorials and didactic instruction on a pro-bono basis. It was reported that many innovations arise at grass roots level, for example, trainee M&M sessions, skills drills, airway and regional courses (S_015).

Submissions refer to the fact that **many trainers have clinical skills but not educational skills**. Some Fellows are considered better natural teachers, and within any given context, the bulk of formal teaching seems to fall to a small group. Teaching is seen as an "add-on" to the duties of a consultant anaesthetist (S_021). Reliance on pro-bono teaching and assessment is perceived to lead to disparity of educational quality. Two submissions request more training and support for trainers and more emphasis on the role of teaching in Staff Specialist roles.

It is reported that the majority of today's teachers were trained differently and may not possess the skills or willingness to teach and assess all elements of the current curriculum. In addition, it is felt that trainers should be able to adapt learning programs to achieve favourable learning outcomes for trainees, and should be able to model behaviour and attributes beneficial to the profession. One submission suggests:

The college lacks teachers and at best the teaching can be described as opportunistic delivered by practitioners who have a limited teaching ability and a failure of understanding of the principles of learning and teaching (S_089).

Type and quality of clinical training varies in different sites. It is considered that structured teaching is not available for all trainees and that availability depends on local interest and culture regarding teaching and research. It was reported that some departments have few teaching sessions, offer poor guidance, fail to encourage trainees and rarely coordinate informal teaching. As a result, trainees may be taught some things repeatedly while other things are missed altogether.

Disparity in clinical training is noted in a range of contexts:

- affiliated and non-affiliated registrars;
- different hospitals;
- resources made available for training;
- consultants' style and teaching expertise in clinical settings;
- access to certain cases e.g. trauma, paediatrics.

Some hospitals (even large ones) have poorly organised, poorly advertised and poorly attended formal teaching programs. Some have no consultant input. Often, the organiser has either run out of steam or is new and has received inadequate guidance or support (S_015).

Supervision

As the nature and value of the **supervisor/ trainee relationship** is considered to be **highly variable** it is also considered important to formalise the role to manage performance. It is felt that **regular trainee/supervisor sessions** can enable clearer direction of the trainee's learning. The minimum requirement of six months may be too long between formal meetings. Having an approved supervisor is considered a strength as long as the desired outcomes are achieved for the trainee but it is felt that the **maximum number of trainees per trainer** should be set. Submissions refer to the fact that there is a need to increase the status of supervisory posts (cf. being an examiner).

Monitoring is considered thorough, using approved training sites and assigned supervisors of training. It is reported that levels of supervision are matched to advancement through the programme. Level 1 supervision for all novel areas is considered an asset to the curriculum and patient safety (S_008).

Supervision throughout training, including for advanced trainees, fosters **continued learning and feedback**. However, over-supervision of intermediate and advanced trainees is seen to be an issue. Supervision requirements can have **unwanted effects**, for example, when a senior trainee is rostered to routine lists while supervision is directed towards a junior trainee undergoing subspecialty experience.

Not all training centres feel well equipped to provide adequate supervision (see S_009).

Occasional differences arise between the College and health services concerning the approved supervision criteria for trainees. There needs to be adequate flexibility to address both the needs of the trainee and the professional service for the community over a diverse range of facilities (S_124).

SOTs are identified as the College's training representatives and their performance reflects on the College. They therefore need regular updates on College regulations and the implementation of their role, those not fulfilling their duties need up-skilling or replacing. Two submissions **recommend appraisal by trainees** e.g.:

Compulsory and continuous appraisal of consultants in accredited sites by trainees, in terms of supervision, teaching, giving quality feedback, etc. WA is already doing things along these lines (S_008).

Supervision of modules

Submissions reported that Module Supervisors (MS) need far **more support** and their roles should be **further clarified and defined** e.g. **How does a MS assess the trainee** for completion of a module and demonstrate objective, fair assessment? Should a fixed number of cases be required?

Curriculum modules require additional tier of supervisors i.e. module supervisors for assessment; additional burden on Hospital staff. In smaller hospitals one individual may be supervising all modules (S_121).

In larger hospitals, each department designates a specialist for each area of modular interest to trainees. This clarifies for trainees who to talk to if they encounter difficulties in a particular area of practice. **Poor supervision and/or poor support of specific modules** make it difficult for trainees to achieve the required learning objectives or experiences. It is reported that some module supervisors do not check that skills are acquired. Ideally:

Module supervisors should have a special interest in that area, have a coaching/formative assessment role only and ensure the syllabus is covered and trainees are prepared for college summative assessments (S_051).

Flexibility

Submissions noting desirable flexibility in teaching and learning methods mention:

- dual Fellowships;
- recognition of prior learning;
- Provisional Fellowship Year;
- electives outside anaesthesia;
- ability to study 24 months outside anaesthesia;
- opportunities for training in Pain and Intensive Care;
- two years of training outside ANZCA training regions.

Other submissions consider **teaching and learning methods as uncreative and inflexible** and too rigid in several areas:

- limited use of other education and training opportunities e.g. universities, regional areas and a variety of institutions who could provide anaesthetic education in Australia and the Pacific;
- inability to fast track outstanding trainees;
- not allowing trainees to meet the objectives of training in a greater variety of ways e.g. by greater emphasis on a competency-based framework;
- inability to allow adequately for pregnancy, illness or vacation from study.

Five submissions consider **programme flexibility allows for breaks in training or part-time training** and is responsive to work/life pressures but two others consider it inflexible. Flexibility is allowed, in theory, but is seen to be largely determined by the local hospital employer.

See S_053 for an innovative suggestion to increase the number of anaesthetists by allowing trained non-medical health practitioners to compete for places on the ANZCA training programme.

Support from regional College committees

Regional College committees are viewed favourably and seen to support teaching done at a department level with a good range of courses, including pre-examination courses and the opportunity to practice and develop oral exam and medical techniques.

Assessment tools

The discussion of assessment tools is divided into In-Training Assessment and Summative Assessment, followed by brief sections on the implications of assessment for clinical exposure, competence and timing, and on competency-based assessment. See Table 6 below for a breakdown of numbers of submissions identifying strengths, weaknesses and innovative ideas for assessment tools and procedures in each of these areas.

Table 6: Assessment tools: number of submissions commenting on strengths, weaknesses and innovative ideas

	Strengths	Weaknesses	Innovative Ideas	Total N of Submissions
Assessment tools	50	63	41	86
In training assessment	19	40	15	54
<i>Minimum standards</i>	-	-	2	2
<i>Self assessment and reflective practice</i>	5	13	2	18
<i>Non-technical skills</i>	-	8	-	8
<i>Portfolio</i>	2	5	2	12
<i>Workplace assessment</i>	-	7	8	15
<i>Online assessment</i>	1	3	-	4
<i>Module assessment and sign off</i>	1	16	1	20
<i>Feedback</i>	8	5	3	16
Summative assessment	39	41	16	61
<i>Examinations</i>	39	39	13	59
Multiple choice questions	-	2	-	2
Exam feedback	-	5	-	5
Examination costs	-	3	-	3
Exam preparation	2	7	1	9
Primary Exam	15	24	-	32
Final Exam	15	8	-	21
Clinical exposure, competence and timing	6	16	13	27
Competency based assessment	1	16	1	18

In-Training Assessment

ITA processes are perceived to encourage and support regular assessment and the 6-monthly trainee ITA is seen to provide a good opportunity for feedback. Many SOTs find them useful in managing trainees and formative ITAs assist in setting goals.

It is reported that **well-structured in-training assessment allows for objective assessment of the trainee** from a variety of sources, practitioners and sites of clinical training. This makes it easy to identify deficits in individual training and gives clear guidelines about **how supervisors manage under-performing trainees**. Some departments strongly support trainee assessment e.g. in-house manuals for modules; processes for progression; remedial programmes for those with technical or non-technical weaknesses.

Periodic assessment of the trainee's progress is an excellent tool both to encourage them and to support them should any areas of weakness be identified whether it be clinical or non clinical (S_093).

However, some suggest **the ITA process should be extensively overhauled** to follow best practice guidelines for workplace-based assessment and remove inadequate sampling error, bias and memory deficiency (S_051). Because years of training are accredited rather than skills it is considered difficult to ascertain if a trainee has adequate skills. It is felt that incompetent trainees are rarely asked to repeat a training year or module.

Several issues about In-Training Assessment are raised:

Current in-training assessment is considered **highly subjective** and limited in providing meaningful feedback to trainees. Issues included reports that criteria are not detailed, and there is no standard to compare trainees against, to allow consistent marking and assessment across institutions.

What are we trying to assess? Lot of non-specific nebulous end-points. Separately assess behavioural and academic. (S_042)

Perceived deficiencies in the tools of assessment mean that sub-standard performance is difficult to demonstrate to the trainee where no clear expectation is established. There is "no agreement as to acceptable level of performance" (S_022).

... the (ITA) form does not provide guidance for the trainee or supervisor as to what constitutes an appropriate standard or performance - this form will need to be revised to reflect the wider range of competencies required in CanMEDS (S_107).

Difficulties in identifying trainees who are unsuitable: Submissions report that there is limited information regarding selection of trainees and few mechanisms to detect and advise failing trainees. Management of difficult trainees demands clear, direct criteria for progression.

Poorly performing trainees are at risk of becoming tomorrow's under-performing consultants (S_057).

'Unsuitable' trainees ... pass through the system with satisfactory (i.e. few unsatisfactory) ITAs, pass the exam, and are then problem consultants (S_046).

Addressing a trainee's areas of weakness: There is a perceived lack of support from the College for poorly performing trainees and their trainers. Challenges include identification of trainee deficiencies, mentoring, counselling and more backup from the College. Some trainees have over five attempts at the exam. "No proper remedial measures (are) in place for trainees with suitable potential but poor study technique or other problems which are contributing to exam failure (S_046). Current Performance Review tools are viewed as adversarial (see S_058 for other ways of addressing these issues).

Removing incompetent trainees: There is seen to be no clear way to remove trainees from the programme if they are incompetent.

Other forms of ongoing assessment during training are recommended such as mini clinical exams, intensive, structured procedural skills training and assessment, formal self assessment, internet based assessment and the use of a non-linear scale to mark ongoing progress (see S_051 for suggestions).

Workplace-based Assessment

A number of issues were raised and suggestions made in relation to workplace-based assessment for the training programme. These are outlined in this section.

Syllabus and workplace-based assessment are seen to lack cohesion, observation of practice is not summatively assessed. It is considered that summative workplace-based assessment in basic training would bring the focus back onto anaesthesia and trainee competence.

One major weakness identified is the lack of observation of practice as part of the summative assessments. The final exam comprises several parts, but it appears that none is measuring performance in the workplace. If this is not feasible in the workplace, perhaps a formal assessment in a simulation centre during the training period could be a requirement. If a trainee achieves a clear pass in this simulated environment then no further observation would be required. However, if they are borderline or fail, some more formal in training assessments could be required (S_106)

It is reported that **few standardised assessment methods are available for the workplace**. Current assessment processes are considered unreliable: they are retrospective over long periods of time and rely on memory. A greater variety of evidence-based assessment tools should be introduced. It is suggested that assessment could also include 360 degree assessments by patients and other health professionals (S_019).

Sampling small, both in number of assessors & number of encounters, thus susceptible to 'halo effect' where good/ poor performance on one occasion is unfairly generalized (S_022).

Systematic teaching of procedural skills is required for trainees to meet an acceptable standard of performance in knowledge and practical skills before they are able to practice on patients.

It is inconsistent that trainees must work for more than six months in clinical anaesthesia before they can give the simplest general anaesthetic yet may perform invasive procedures that have dangerous potential complications with no specified training or supervision (S_022- also provides examples).

Submissions report that desired end of training competencies should determine both the design of the syllabus and its assessment.

It was reported that **assessors should be trained in performance assessment or use of assessment instruments**. Subjectivity is seen as an issue especially in the assessment of ethical practice and some aspects of professionalism.

It was considered desirable to **ensure continuity** and **ongoing improvement of trainee performance** by passing on training reports to successive SOTs and department directors.

What is the objective of the report - to satisfy completeness of minimum legal training requirements, or to reflect as accurately as possible the status of a trainee? (S_071)

The perception exists that **ITAs can allow some trainees to progress when it is inappropriate for them to do so**. Failure to handover trainee performance information and remediation processes to the next hospital is seen to compound problems. When results from in-training assessment are not available to employers, it is seen to significantly increase the workload for hospitals in dealing with difficult trainees.

Widespread, mandated use of simulated learning is favoured to give standardised testing and feedback a strong place in the training, with particular relevance to higher order skills and professional qualities. S_041 notes that immense resources would be required to implement such a programme but considers that there will be no other effective way to assess many of the supplementary CanMEDS Roles.

Simulation is currently a 'special event', rather than an everyday occurrence in anaesthesia education... The learning cycle is incomplete ... Regular follow up sessions to rehearse desired behaviours or re-test oneself after reflection on the previous performance would allow consolidation of the learning. This would require an increase in training time, physical and faculty resources (S_022)

It was suggested that the College should **develop formalised, mandatory programmes** involving senior clinicians giving feedback on cases.

Minimum standards

Usually the quality of trainees is considered to be high. It is perceived that a few achieve their Fellowship despite consistently poor performance and attitude throughout their training. There is seen to be **wide variation** in what is an **acceptable minimum**, but if the spirit of the learning objectives is to be fulfilled, then a more comprehensive guide to minimum standards is seen to be needed.

We should be assessing trainee ability to respond to a crisis. Data should be combined from both real and simulated situations in the evaluation of human performance in anaesthesia (S_057).

To deal with the rare trainees who do not meet the expectations of the profession S_040 proposes the first one or two years be regarded as 'provisional' training, and end of term forms completed by supervisors should carry assessment weight.

In effect this (a 'provisional' year) would bear no difference on the training of nearly all trainees, but it would give us within the specialty much more leverage to deal with those rare individuals who for whatever reason do not meet the expectations of the profession. Furthermore I would contend that under this proposed arrangement the current end of term forms completed by supervisors would actually carry some weight which I believe is not the case now (S_040).

Self assessment and reflective practice

Trainee self-evaluation is considered valuable for in-training assessment (ITA) and for some modules.

Reflective practice facilitates development of critical thinking skills (S_132).

Although a powerful tool in the curriculum, **self-reflection currently is reported as insufficiently pursued and valued** by the majority of trainers and trainees. Compliance with this element of module completion is variable. Many trainees fail to actually undertake the self-directed/adult learning the College supports.

The enforced "reflection" in the new system is not useful. My impression is that trainees are writing in these sections because they feel they are expected to, rather than because they feel it is worthwhile (S_158).

Instead, it is thought that trainees focus on achieving the minimum number of sessions required – the non-negotiable part of the clinical modules. Another concern is that inexperienced trainees' self-perception of ability may correlate poorly with actual ability (S_041).

There may be a need to **teach trainees and trainers how to 'reflect'** as this is a new concept to most Fellows and many trainees. The portfolio is thought to be underutilised, requiring more emphasis on trainee documentation of learning points. Continuous audit of trainee anaesthetic practice, results, complications and critical incidents would aid reflective practice.

I would like to see more formal self assessment incorporated into the system and goal setting by the trainees (S_018)

Submissions report that trainees should have demonstrated a process of self reflection before modules are deemed completed. S_018 suggests trainees are often well aware of their own strengths and weaknesses. Assessment that focused on this would make it easier to discuss progress productively such that both the trainee and the supervisor are aware of concrete outcomes.

Use of non-assessable 'reflective practice' without benchmarking against clinical guidelines or 'best practice' standards potentially results in a reduction in the benefits of reflection and practice improvement (S_132).

S_104 critiques the teaching of Module 12 (quality, risk management, legal issues) by self assessment.

Non-technical skills

An observation made is that there is no list of core competencies for non-technical skills; and communication, professional and manager skills are not formally assessed. Interpersonal skills, the ability to handle stress and team communication are judged to be vitally important for patient safety, and therefore should be in the curriculum. Only knowledge and understanding have summative assessment so there is less value placed on learning these important non-technical skills.

The assessment of trainees remains a weakness as the system is very subjective ... assessment of ethical practice is almost impossible to judge ... (S_093)

Portfolio of learning

The module system encourages effective use of the portfolio but there is considered to be a need to review what sort of log book is most suitable. The portfolio may be kept online, but keeping a hard copy of the portfolio is thought to be essential due to back up failures.

Issues relating to portfolio requirements include:

- Whether there should be mandatory log-book keeping to assess the volume of practice;
- Using the portfolio to demonstrate a certain number of complex or high acuity cases attended;
- Introducing set numbers for certain procedures;
- Reviewing the portfolio regularly with SOT;
- Trainees recording experience accurately.

Online assessment

In general, it is thought that modules are not supported by **sufficient teaching or assessment materials**, with suggestions for more lectures on the website matched by multiple tests to confirm learning. S_064 cites Modules 2 and 12 as exceptions, being well laid out and providing valid assessments.

Use of **electronic sign-off for supervising consultants** is recommended by S_093 (See this submission for suggestions how this may be done efficiently).

Module assessment and sign off

Having a **standardised form for the signing off of all modules** is viewed as a strength but experiences vary according to site requirements, supervisors' standards, and exposure to clinical opportunities as discussed in relation to the modules above.

What is required to have a module signed off is highly variable, with some Module Supervisors "happy to sign anything" and others being "overly stringent" at the evidence or detail they require prior to signing-off, or not recognising experience at other sites (S_012).

Self assessment and a portfolio are considered useful in developing reflective, self-directed learners but it is thought that multiple tests should be used to confirm trainees have internalised the core knowledge of the module.

In particular, it was considered that:

- **The role of module supervisors needs better definition** and guidance provided to make module sign off a less subjective exercise. Module 4 (Obstetric Anaesthesia and Analgesia) is mentioned specifically.
- Guidelines should be more specific about **the type and level of exposure required** to sign off a module.
- Module completion should be **competency based**.
- More guidance should be given to trainees on **documenting learning points in the portfolio** to avoid major knowledge and skills gaps at the completion of training.

Module sign-off - currently trainees self-assess whether they have fulfilled a module's aims and ask for sign-off, this is usually time-based and not necessarily knowledge or competency-based. This is like asking a learner driver to tell the driving instructor to give him his license because he thinks he can drive and has mastered the necessary skills and number of hours (S_046).

S_042 suggests a list of specific skills and procedures which might be required for module sign-off.

Feedback

Regular interviews with supervisors of training are perceived to help keep track of progress, identify needs and problems, ensure continued learning and provide feedback on performance. Self assessment and examination feedback are also valued.

Structured assessment is considered to be too infrequent, or limited (ITA forms), to inform training. More frequent feedback is recommended to allow reinforcement of appropriate performance and remediation of inadequate performance. Suggestions include:

- more regular sessions for trainees to discuss critical incidents (S_055);
- revise the ITA form, the current one is judged to be too vague, particularly regarding clinical skills (S_072);
- use mini clinical exams to provide ongoing assessment and feedback (S_084)

Improve feedback by improving teacher education and support. See also the discussion under Supervision above, and S_072 for more detailed points.

Make it a requirement that Supervisors of Training take part in teaching & feedback-giving "clinical teaching & learning education modules" with full support by the college for these activities. If SOTs are to be approved by the college for their roles & are to be effective it is essential that they are appropriately skilled, trained & motivated (S_072).

It is perceived that **feedback to teachers from trainees on their teaching** would be extremely valuable, though quite challenging at times.

The College should provide a mechanism for aggregated anonymous feedback from trainees to their supervisors on relevant aspects of clinical training. This would be valuable both as a personal quality-improvement exercise for individuals and as a benchmarking exercise for Departments of Anaesthesia (S_060).

Summative assessment

Summative assessment is discussed primarily in terms of examinations (see the next section), however some contributors take a broader view and include: the formal project to consolidate essential knowledge, skills for clinical work and "continuous education or clinical audit after completion of the fellowship" (S_050).

"Supervisor observations and colleague interactions are also used to verify attainment of the competencies"(S_122).

Module system and examinations are viewed as functioning well but an imbalance is noted: "Curriculum Modules" are based on the CanMEDS Roles but place importance only on the medical expert role without guidance for other roles, which have "no assessment or examination at a summative level" (S_021).

Structured and consistent assessment by examination conducted in a fair, transparent and professional manner is seen to ensure high standards. Regional centres for the written exam are appreciated.

The clear requirement to pass exams at certain points of training is good ... An exam system that tries to examine material based on a prescribed syllabus in a variety of formats, thus gaining some curriculum alignment (S_010).

Summative assessment is considered to be **dominated by examinations**. This is considered problematic as they become the trainee's primary focus rather than evolving theoretical knowledge. The present examination system is seen to induce rigid thinking without encouraging lateral thought (S_055).

It is of concern that there is **no summative assessment of procedural skills** and minimal assessment of communication, professional and manager skills. It is thought that trainees' focus throughout training is on the two examinations, rather than on learning objectives of modules or clinical practice.

... examining knowledge (is) only one aspect of what we need to assess. Because it's the only form of summative assessment we have, the trainees spend a large amount of their training focussing on these (S_047).

Exams are perceived to lack clinical application despite improvement in recent years. Learning is currently seen to be driven by exams and, as such, there should be more focus on "achieving increasing competency and autonomy, with practical application of the knowledge base" (S_046).

Submissions report that the **examination process clashes with the requirements of the module system** and reduces the effectiveness of learning through the modules (S_092). See S_120 for a description of the tension between examinations and learning and assessment in the twelve modules.

It is thought that **other forms of summative assessment** should be included in training: e.g. trainees should meet requirements of time, volume-of-practice and competency in technical as well as non-technical skills. Some skills will require a far greater level of competence than others (S_046). Summative competency-based assessments are viewed favourably for their potential to lessen the focus on exams.

The examination process is considered demanding on trainees, putting some trainees under intolerable pressure.

Trainees have a miserable time studying for it and find much of it dry and irrelevant to clinical practice. It causes much distress to Registrars who struggle to pass despite being solid clinical Registrars. This is particularly the case for older trainees with family commitments (S_039).

S_004 was also concerned that emphasis on assessment by examination may show bias against IMGs.

There is considered to be a need to **support and follow up** trainees through assessment processes: S_009 suggests a special group be established to do this as part of its role; S_008 believes that there is no mechanism for candidates to feedback to examiners, or the exam committee; S_002 asks that training reports, whether formative or summative, be routinely made available to successive SOTs and department directors.

Overlap of exam preparation and clinical training is of concern and include the following aspects:

- competing priorities between exam preparation and clinical immersion;
- failure to pass the exam on schedule prolongs training;
- acceptance into the programme via the Primary Exam prior to any experience working in the field;
- determining when trainees have failed to meet expectations e.g. repeated failure to pass the Primary Examination within a given time frame or a predetermined number of attempts.

Suggestions for improving the programme include increasing clinical components in early training; encouraging registrars to use their clinical time well by linking practice to summative assessment; revising the timing of the exams for better learning and establishing processes to address failure. e.g.

Replace the Primary Examination with a series of assessments at the end of Basic Training Year 1 and Basic Training Year 2 (S_049).

The use of **summative workplace assessment in basic training** to evaluate technical and non-technical skills was promoted because trainees “need to know we mean business about all the CanMEDS roles” (S_015). The use of simulation for assessment of key competencies such as crisis management, collaborative and communication skills for progression through training was also recommended. This assessment may initially be formative but may become summative (S_019). However, S_092 expresses caution regarding the use of simulation environments for assessment, noting that it should be kept as a 'safe' learning environment where trainees can practice skills and develop professional approaches to crisis management.

Increased use of online assessment is recommended for module sign off and multiple choice questions (MCQs) to reduce the Part 1 syllabus.

Three submissions find examination costs expensive.

Both the Primary Exam and the Final Exam are the subject of considerable comment. Specific observations regarding the effectiveness of examinations as a form of summative assessment addressed preparation for exams, the place of feedback and the effectiveness of the various examination formats including multiple choice questions (MCQ), short answer questions (SAQ) and vivas. Each of these aspects is discussed below.

Primary Exam

Fifteen submissions expressed **approval of the Primary Exam as an objective assessment prior to progression to advanced training**, having “a defined syllabus, documented texts, and past exam notes to facilitate study” (S_022) and “preventing trainees from getting too far into accredited training whilst being unable to meet the academic requirements of the first part examination” (S_025). S_013 reports “mixed support and dissatisfaction from trainees”.

Some submissions suggest **exam success demonstrated desirable qualities in trainees** e.g. aptitude, expertise, hard-working, commitment, standardised knowledge (of science) and application. Other comments favour **the two sittings per year for each component** of the primary exam and its increased clinical orientation and relevance.

S_072 specifically approves the format of the Primary Exam as “appropriate to test all types of knowledge as well as skills required to communicate knowledge effectively especially under stress (as in viva situation for verbal communication skills)”.

Perceived sources of weakness and concern regarding the Primary Exam include:

The **current exam syllabus is not considered relevant to clinical practice** but is, rather, outdated and unhelpful, focusing on two areas not covered explicitly in any of the modules (S_130). Trainees have to recall a vast amount of information, much of which is irrelevant to successful specialist practice. “..(e)very year more is added to the syllabus and nothing taken away. It is time for a cull” (S_058).

Primary Exam is judged to have an academic rather than a clinical focus. It is considered that it should be about acquiring competencies for practice of anaesthesia.

Place of basic science test is contentious in a clinical specialty. Assessment drives learning, major issue is how it fits into curriculum & what role it plays (S_041).

The Primary Exam is seen to act as a filter for, or barrier to, entry into the advanced training scheme. “It is unclear at least in the real world as to where the primary syllabus and exam fits” (S_019). As it stands the exam is considered neither a tool for life-long learning (S_049), nor a useful discriminator of who should proceed with anaesthetic career (S_041). S_080 discusses the undesirable consequences of awarding training positions chiefly on the basis of success in the Primary Exam. Trainees who do not pass the exam on schedule have their training extended (S_035). S_064 requests recognition of alternative training programme primary examinations as equivalent. See also S_047 for an extended discussion of these issues under Basic Training Weaknesses.

Final Exam

The submissions report that the ANZCA Final exam ensures expert knowledge, competence and safe practice prior to attaining Fellowship. It is considered to be robust, reliable, and repeatable, testing communication skills under pressure and encourages prospective Fellows to obtain a proper amount of knowledge and experience. Trainees support the concept of summative assessment at the end of training.

Criticisms of the syllabus and assessment process ask for **objectives to be better defined, questions to be criterion referenced and guidelines provided** for the exam as some trainees find it “...difficult to understand the College's expectations despite having the guidelines in the 12 modules” (S_014).

It is reported that the scope of the **Final exam does not summatively assess actual performance** and seems **biased towards knowledge components** at the expense of broader issues. “We assess cognition but not behaviour in our summative assessments” (S_019). The perceived **lack of a marking scheme in the viva** is also seen as problematic.

Exam preparation

Pre-examination courses for Primary and Fellowship examinations are considered effective and **practice exam questions and examiners' comments** are appreciated. **Study groups and the syllabus** (available on the ANZCA website) were also helpful tools for preparation. Some concern is expressed that **exam preparation can distract trainees from clinical skills development**. Some rotations can inhibit module completion before exams.

The following limitations are noted:

- Exam preparation courses are not available in all regions (S_008);
- Consultants providing exam preparation and trial vivas receive little guidance (S_015);
- Only some of the syllabus for the primary exam appears in the curriculum (S_019).

Suggestions were made to **revise exam syllabus, teaching material and resources** to improve learning. See S_042 for suggestions on re-ordering the exam schedule and S_099 suggests a summary of the major points of the syllabus may assist preparation for the exam.

Exam feedback

Five submissions consider that a perceived **lack of feedback to exam candidates is a weakness in the overall exam process**, while one submission finds feedback to unsuccessful trainees is well structured and helpful.

The objectives in both the Primary and Final exams should be better defined. There have been many instances where 'good candidates' failed to perform in the exams and quite often, they don't know where their mistakes or weaknesses lie (S_009).

Exam formats

Three aspects of the examinations' format received comment: multiple choice questions (MCQ), short answer questions (SAQ) and vivas. One submission considers “**there is a good balance** of MCQs, SAQs and viva voce examination tools in the final exam” (S_092).

Content validity appears high for SAQ and Viva exams; the development process involves a large number of content experts working together to minimise the construct irrelevant variance. This is attempted but is more problematic for the MCQ as the number of questions is so large (S_022, S_041).

Several submissions like the viva as a test of complex learning outcomes though two question whether the nature of this assessment process (perceived to be subjective) made it unreliable.

It was reported that it is difficult to prepare for SAQs as they are considered to have no pre-determined goals, or marking scheme. Overall **MCQs are considered the least satisfactory**, the format is detrimental to trainees' learning seeming **neither well designed nor referenced to the curriculum** and therefore hard to study. See S_075 for further discussion.

One external group recommends an initiative to aligning exam questions with the curriculum:

...we have found it particularly powerful to ask examiners to write a reference to the curriculum standard against each examination question that they write for the exams and for these questions in any examination paper to be derived from a blueprint to ensure appropriate weighting of the components of the standard (S_108).

Clinical exposure, competence and timing

Strengths of clinical training are judged to include: the eight required modules of clinical anaesthesia; principles of staffing the operating room, including assistants to anaesthetists; assessment beyond level 1 supervision and defining a required skill set (see also S_106).

However, **lack of provision for competence assessment** in the clinical modules is a common concern. Passing Part 1 exam is emphasised "possibly to the exclusion of learning good, safe, competent clinical anaesthetic skills"(S_085).

Trainees need to learn the basics during basic training. They need to become safe for beyond level one supervision and working in the after hours roster and at present the only structured formal summative assessment during basic training is a basic sciences exam (S_051).

No content or assessment relates to clinical teaching and learning. Current practice is unregulated by ANZCA and generally considered to be educationally deficient. Available tools to rectify this situation are not used. As clinical proficiencies are not "examined", per se, their importance may be downplayed by trainees. There is an identified need to increase centralised teaching of core competencies and standardised assessment of these competencies.

It is reported that trainees may have **poorer skills than expected in key areas**. This is attributed (in part, at least) to having **less clinical exposure**. It is felt that trainees may lack clinical experience and struggle to meet their clinical requirements. Practical skills (mask ventilation, intubation, cannulation, arterial lines, central access) are not seen to be taught to a consistent structure and certainly not assessed consistently (S_004). Requiring a number of 'sessions' does not capture the breadth of experience trainees need adequately. The experience required may not relate to professed core aims or reflect likely clinical practice post Fellowship. Formal assessment of basic skills is considered essential and **there is strong support for a clinical component in the Primary exam**.

...large amounts of unsupervised clinical experience ... may lead to 'bad habits' and, without supervision and assessment, are not a learning experience (S_046).

There is no "formal mechanism" in place that assesses and deems a trainee capable and safe to progress to level 4 supervision. See S_085 for suggested mechanisms to address this issue. See S_004 for an example of a specific **guide to clinical competencies expected of the trainee** year by year, combining training in skills with short courses or workshops aimed at particular years.

Suggestions to encourage more clinical exposure include: allow longer for each module; require trainees to attend preoperative assessment clinics; incorporate IMGS anaesthetists into the rotation system, re-introduce a post Fellowship year.

... the focus should be on satisfactory development of competencies as well as experience; ANZCA needs to adopt a whole of anaesthesia education/training effort that recognises levels of expertise, matched to clinical roles (S_076).

Competency based assessment

Having competencies identified for each of the roles is considered a strength of the current programme. These competencies reflect a combination of generic and specific skills and attributes.

It is reported that the current curriculum uses words such as “competence” within module requirements, without stating **how competence should be assessed** or **what level of competence is required**.

Currently progress is **determined by exam results and time** in the programme but there is support for **progress to be competency-based**. Because progress and completion are not based on competence, training and assessment are thought to be unbalanced currently.

The training programme needs to become more competency based, rather than rigidly time based, with at least the possibility of accelerated progression for high performing trainees (S_015).

While knowledge can be learnt from other sources, **training of practical skills requires practice** and is considered to be under-emphasised. “It is vastly more important that trainees are signed off on achieving a set of skills” (S_095).

Assessments of clinical performance are not summative so there is less incentive to learn these skills and attitudes which are arguably as important, if not more important, for safe and effective patient care.

Teaching and assessment of procedural competence could be more formalised and given ANZCA endorsed assessment of competency for independent practice (S_022).

Have a separate syllabus, incorporate the requirements for certain clinical exposure into the document that defines overall time requirements (SOT signs off) and design assessments to ensure competence in the different module areas (centralised and standardised). Module supervisors should have a special interest in that area, have a coaching/formative assessment role only and ensure the syllabus is covered and trainees are prepared for college summative assessments (S_051).

It is considered that **modules need to be reviewed** to ensure core competencies are tested by a robust process, with **each skill set signed off by a supervisor**. Core clinical knowledge should also be included in this process. e.g. a ventilation unit and a circulation unit (S_095).

Some competencies which are deemed to require more specific attention include:

- Intravenous fluid management and the risk of hyponatremia as part of a “circulation unit”;
- Knowledge of age and weight-based doses of all commonly used anaesthetic and resuscitation drugs;
- Anaesthetic management in surgical areas such as ENT, General and Orthopaedic surgery;
- Management of trauma and burns as a separate part of the Module 8 curriculum;
- Development and assessment of knowledge and skill in regional anaesthesia;
- Training in paediatric anaesthesia.

Learning resources

Submission evaluations of learning resources vary: 14 approve of what is provided, 17 mention weaknesses which are discussed below under the specific resources to which they refer (see Table 7). Submissions endorse the following learning resources as useful and/or relevant: Professional Documents; online journal resources, departmental library materials, website links, access to CME meetings, suggested texts, exam reports and courses. The discussion of learning resources addresses general resources and references, and E-learning, particularly as it is made available through the ANZCA website. Brief sections follow on library resources, and on the place of conferences and meetings in resourcing learning.

Table 7: Learning resources by strengths, weaknesses, innovative ideas and total number of submissions

	Strengths	Weaknesses	Innovative Ideas	Total N of Submissions
Learning resources	14	17	25	39
General resources and references	-	2	11	12
E-learning: ANZCA Website	7	12	20	29
Library	2	-	-	2
Conferences, meetings	2	1	-	2

Learning resources are felt to be weakened by:

- lack of standardisation;
- unclear funding allocations for registrar training in public hospitals;
- less access to resources for overseas trainees;
- dependence on the goodwill and initiative of individuals and small groups of Fellows;
- being training scheme dependent;

Trainees and their teachers commonly consult resources that are not listed in the reading list.

The main problem is that the fields are moving so fast that it is hard for most examiners to keep up. Also the traditional physiology (and to a lesser degree - pharmacology) books do not include much of this stuff. We need to have the ability to fast track (and publicise) new additions to the syllabus (S_068).

Some submissions interpret “learning resources” very broadly and include aspects of training like clinical exposure, role models, length of training or experiential learning. These contributions are discussed elsewhere in this document.

General resources and references

It is generally thought that **module learning resources and references** should be supplied for the required knowledge and skills listed in the modules, including Obstetric Anaesthesia (see S_003 for key references).

A recommendation was made that accredited Anaesthetic Departments should acquire at least one **airway training mannequin** for teaching purposes. The importance of having standardised resources and teaching for anaesthesia equipment was emphasised. Reference was made to the perceived utility of teaching materials from the Medical Defence Organisations. One suggestion was made to write an ANZCA textbook to support the Primary Examination.

E-learning: ANZCA website

This section deals specifically with comments about the website and on-line learning. Where e-learning is discussed as an aspect of another topic (e.g. modules or assessment) it is included in the relevant section of this report.

The ANZCA website is regarded as accessible and easy to navigate once the pattern / format is understood. It is felt to contain useful information to support and guide trainees e.g. examination programme, structure, syllabus. It provides **excellent current resources** which are reviewed regularly e.g. Professional Documents and online journal resources. Amongst the concerns regarding the **website** is that it is **slow compared** to other educational institutions.

The following are not available on website as expected:

- evaluation processes for modules and assessment tools;
- basic science syllabus;
- assessment mapping and detail about the depth of knowledge required;

news about ongoing initiatives to evaluate and improve the quality of the programme.

A web-based learning programme is considered desirable to support the training programme. **Increased use of computer based education** would provide a minimum standard body of knowledge and improve access issues for trainees in various geographical locations. **Webstreaming and podcasting** will be extremely useful resources, especially for the rural and remote sectors.

Trainees are confident with technology and are accustomed to utilising online educational materials. It is important that the College continues to expand its online educational material to encourage greater independent learning and improve trainees' access to education resources (S_099).

Web-based learning resources on the site are judged to be inadequate at the present time.

Limited use of **web-based learning** and uneven success with **teleconferences** for trainees disappoints respondents. In rural settings, and for international medical graduates, web-based learning can provide national exposure to key knowledge concepts. "This gives all trainees the same exposure ... and provides flexibility in the pace of learning for each trainee" (S_021).

Some submissions favoured making modules increasingly web-based.

Podcasts for download, self-assessment tests, highlighting of useful and important studies and papers. Something for every module. This would assist learning to be independent of specific hospitals/rotations/regions (S_012).

Online module completion is considered to offer a great step forward, convenient and verifiable.

There is a reported expectation for the following to be internet based:

- ITA processes including trainee learning portfolio; all modules; correspondence for the formal project; College form submission; College log book; assignment submission; reflective practice submission (S_008);
- A centralised, computerised trainee database with accessible information;
- The electronic journal, which should be quickly accessible from the homepage.

It is highlighted that other excellent **audio visual educational websites/links** already exist e.g. Sam Lamptang's anaesthetic machine website and university based "Ethical and empathic practice" for medical students with a workbook and on line resources. It is felt that these could be used more effectively as adjuncts to training.

See S_078 for issues for the future development of "training delivery media that provides the optimum solution for ANZCA Trainees"

Library

The **ANZCA library is considered to be a valuable resource** for those trainees in Melbourne and the on-line journal service is also reported as a strength.

Conferences, meetings

The **annual conference and local meetings** are reported to be well organised. It is noted that adequate staffing levels facilitates trainee attendance. S_039 suggests that topics relevant to examinations should be included at the annual conference.

Alignment of content, teaching and assessment

The following observations relate to views on whether there is appropriate alignment between course content, teaching and assessment (see Table 8). Eight submissions saw this as an area of strength with a further twenty three nominating this as a weakness of the training programme.

Table 8: Alignment of teaching, content and assessment by strengths, weaknesses and innovative ideas

	Strengths	Weaknesses	Innovative Ideas	Total N of Submissions
Alignment of teaching, content and assessment	8	23	7	31

Rotational training is seen to provide the types of experiences that are **tested in the Fellowship examination**, as well as the kinds of experiences required for a career in anaesthesia like leadership, organisational and communication skills.

Our product is good. We have observed that new consultants frequently function at a high level and make very enthusiastic contributions to their departments (S_015).

On the positive side, it is perceived that there is **alignment of assessment with desired learning outcomes**, that **all areas of interest are assessed** and it is clearly stated which module (or part of a module) is assessed in which context. The exam system tries to **examine material based on the prescribed syllabus** in a variety of formats.

Learning resources supplied, teaching and learning methods utilised, assessment tools utilised and alignment of these need to be developed by experts, but ensuring involvement of field personnel and trainees, to maximise outcomes (S_063).

Contributors stress the fundamental importance of **aligning curriculum with the content and assessment of teaching programme** and raise a variety of concerns.

The key issue in developing a curriculum is the alignment of the outcomes with the delivery of the training and the assessment to ensure that the curriculum moves from being a set of documents on everyone's shelves, to being a living way in which training is interpreted, taught and assessed (S_108).

See S_033 for suggestions on mapping the **expectations for each level of training** and division into "core" - to be fulfilled by all trainees, and "elective" requirements.

It is also reported that **not all curriculum objectives are taught or assessed**, and that some of what is taught and/or assessed is not in the current syllabus.

A further perception is that there is **poor alignment between the modules, the experience available and what is assessed**. Modules originally ensured all trainees were exposed to most areas of practice. Now training is seen to suffer from 'bottlenecks' and this can make module requirements hard for some trainees to meet.

There is considered to be poor standardisation of experience needed to meet the module requirements. Completion is difficult to document for some learning objectives. This encourages a "tick-off" mentality (S_013).

Show how training in the attached competencies is embedded within, and integrated into, each of the training modules over the whole training period (and) identifying how these competencies are to be assessed (S_122).

It is reported that many of the **professional roles that are required are not taught**. The ANZCA Review is seen to present an opportunity to reinforce the current training programme by expanding and strengthening the evaluation and assessment methodologies specifically around these professional competencies.

There is little uniformity in the content of teaching programs and poor alignment with our curriculum. Nearly all topics address the medical expert role with other roles receiving little attention (S_015).

Alignment of the curriculum with the real demands of specialist practice: A mismatch is identified and the syllabus content does not always appear to reflect the issues specialists face or the areas of their actual responsibilities. Practice is changing, and the modular structure does not necessarily reflect current practice, e.g. regional anaesthesia and day surgery. It is acknowledged that stress can be placed on trainees because of the mismatch between training and actual job requirements.

It is perceived that a **lack of training of clinical teachers** and lack of training for supervisors in other areas can exacerbate poor alignment between modules, teaching and the exams.

Supervisors require high levels of skill in their roles as Communicators, Collaborators and Managers if they are to effectively assess trainees (S_122).

A submission discussing ethical values in the curriculum highlights the need for **alignment between the centralised core material**, preferably made accessible through online modules, **and what is learnt from practice in local departments**.

Having the modules online allows centralisation of the curriculum in this area with a core set of references and global assessment but divorces this process from local teaching and practice. This risks misalignment between what is taught online and what is observed in practice with the risk that learning is compromised. A system of integrating the centralised education delivery and assessment in this area with local departments is needed (S_041).

Lack of **alignment between assessment and the curriculum** is recognised to have significant implications for trainee clinical development and for patient safety. A priority is **the development of assessment tools which are congruent with the curriculum and teaching modules** and which delineate the level of understanding or expertise required in the outcomes. Currently modular learning objectives are seen to be very broad and not always defined as assessable outcomes. Examinations are not blueprinted to the curriculum.

See **Assessment** for a full discussion, including the role and function of examinations.

See S_089 which discusses a lack of **vertical integration with other programmes** and a seeming limited interface with university medical education.

B. The processes undertaken to manage and enhance the quality of the programme

Ongoing initiatives to improve the programme

Thirty-one submissions commented on strengths of current initiatives to improve the programme (see Table 9). Programme evaluation, and particularly the programme's reputation, are seen as a strengths. Other aspects singled out for comment include the need for greater emphasis on research, and input from other agencies and areas, particularly links with Indigenous health.

Table 9: Ongoing initiatives to improve the programme by number of submissions commenting on strengths, weaknesses and innovative ideas

	Strengths	Weaknesses	Innovative Ideas	Total N of Submissions
Ongoing initiatives to improve programme	31	17	5	52
Research emphasis	-	3	-	3
Input from other agencies, areas	2	5	3	10
<i>Links with indigenous health</i>	-	-	1	2
Programme evaluation	28	9	3	40
<i>Appraisal by trainees</i>	-	-	2	2
<i>Constraints on improvement</i>	-	2	-	2
<i>Programme's reputation</i>	21	1	-	21

Programme improvement requires regular evaluation and creative initiatives. One submission notes not being able to find information about this aspect on the website. It is reported that to develop such initiatives more financial resources will need to be allocated.

The **training site accreditation process** is named as a major strength of the programme:

... (The training site accreditation process is) able to evaluate the delivery of the program at the coal-face, through data collection and interviews with a wide range of trainees, staff and management; improve delivery of the program, and contribute our experience to the College's quality improvement process (S_015).

However, S_019 suggests that accreditation is too infrequent to ensure an adequate standard is maintained.

One area where programme initiatives will be relevant is to ensure compatibility between Pre-vocational Medical Education and Training years and the ANZCA training programme. It was felt that ANZCA should consider setting specific objectives for these years of training (S_002).

Programme evaluation

Submissions affirm the programme is extensive and well recognised. It is considered to specify high standards of technical training and is supported by a comprehensive curriculum, assessment and continuing professional development (CPD) processes. ANZCA commitment to professional development and patient safety is reflected in this **Curriculum Review** which is seen to exemplify openness to feedback and dedication to quality improvement. Five years after the introduction of clinical modules and learning portfolio is considered to be a good time for review.

Staff dedication and the pro bono activity of Fellows are recognised for their significant contribution to the success of the programme.

There is wide **support for the curriculum review process**: It is considered that evaluation should be stressed and given a profile in the curriculum. However, “it is not clear where evaluation of training sits within the governance structure” (S_106). ANZCA is the regulatory body but there is an apparent disjuncture between the governance of the curriculum and its delivery which rests with anaesthetists in teaching hospitals. One submission criticizes the fact that: “Over the past few years there has been a tendency towards increased paper pushing, for no demonstrable benefit” (S-044).

S-110 has an extended discussion of the terms of reference of the review as it applies to, and incorporates, aspects of IMGS training and parallel programmes. It was recommended that these should be dovetailed into the revised programme as it is developed.

There is a recognised need to have **regular evaluation** to seek feedback and communication with SOTs, NEO, module supervisors, HODs, examiners, NZNC, trainees and staff. The use of **360 degree type review and evaluation mechanisms are favoured**: from student, teacher, patient and provider perspective to ensure the curriculum remains relevant and is meeting the needs of critical stakeholders (S_076).

Submissions express disappointment that:

- processes used to evaluate the modules are not on the website;
- minor revisions of the programme are fragmented or delayed;
- excellent innovations in some centres are not being used to benefit the whole programme;
- trainees lack opportunities to offer non-confrontational feedback on training or programme issues (e.g. anonymous on-line forms).

Constraints on improvement

Programme evaluation is not considered to be systematic. The separation of training (the College) and employment (through individual hospitals etc) means quality improvement in departments can sometimes be driven by external forces.

These departments lack the incentive to improve, often because of workforce issues (S_015).

Programme’s reputation

Comments of approval for the programme follow two themes: for the programme itself and for its ‘product’ - the Fellows.

The training programme is praised on the grounds that it is an internationally recognised, comprehensive qualification of high standing. Although specifically designed and refined over decades for training Australian and New Zealand anaesthetists, it is seen to work well across national boundaries and to be emulated by other training programmes. The standard of knowledge required is considered uniform throughout Australasia. It is acknowledged that the current training programme has not, as yet, been formally evaluated in comparison with other programmes.

Qualities perceived as ensuring the curriculum’s success are: sound selection processes, impressive support from educational theory, self-directed ‘adult’ learning, sufficient clinical exposure, learning and teaching opportunities, and high national standards. The College is also seen to maintain a **strong focus on trainee issues** without lowering the standards.

... the superiority of the training is obvious to Final Part Examiners who are in a position to compare ANZCA trainees with those from overseas programs (S_043).

Submissions commented that the curriculum programme produces **world-class anaesthetists** who are competent technicians and among the safest and most knowledgeable in the world. They have all round capabilities and new consultants frequently function at a high level and make enthusiastic contributions to their departments. However, ANZCA’s status as the only provider of anaesthesia training in Australia is questioned as potentially excluding some worthwhile groups (S_069) (S_090).

Research emphasis

There is a perception of insufficient expert teaching of research skills and inadequate support for research by trainees. In particular statistical abilities are considered poor and need to be taught more thoroughly (S_010).

The Research Committee and Trials Group have made some excellent contributions in this area through the Novice Investigator support program and grants, the pilot grants and the survey support systems (S_007).

Input from other agencies and areas

The following agencies offer support for the development of the Curriculum or contribute ideas to its development or its context. The following extracts summarise more detailed information available in the relevant submissions.

*Given recognition that **DHHS is an important partner in the training** of specialist Anaesthetists, ...there may be benefit in DHHS having direct input into training in areas of management and administration (S_123).*

***CPMEC would like to draw the attention of ANZCA CRWG to two ... initiatives:** The two-day CPMEC Professional Development Program for Registrars (PDPR) (and) The Australian Curriculum framework for Junior Doctors (ACFJD) (S_127).*

*There has been **minimal input from the Royal College of Obstetricians and Gynaecologists (RANZCOG), the Australian College of Midwives (ACM) and the New Zealand College of Midwives (NZCM) in the development of Module 4(S_029).***

The curriculum elements described do not involve medical students ... This disjoint places considerable stress on ANZCA trainees, and confuses the expectations UQ is supposed to have on the target competence level of the intern in anaesthesia, towards which medical students are to be trained (S_089).

*Based upon the experience of modernising Dutch postgraduate programmes, we believe it is crucial to use the everyday clinical tasks of anaesthesiologists as a prototype to focus attention on these roles (collaborator, manager, professional) that are pivotal for doctors of the future. **We have provided an example of how we did this in the Dutch context (S_118).***

*I append the curriculum of the **College of Anaesthetists of South Africa's primary examination** for your inspection. I insert the curriculum for physics and the principles of clinical measurement by way of example (S_129).*

The RCPA offers educational programs in basic pathological sciences for its own trainees and currently contributes to programs for radiologists.

*From our perspective, it may be advantageous to **share resources with ANZCA and other colleges in terms of:***

- expert advice on curricula educational seminars and online modules*
- joint seminars for trainees*
- shared online modules*
- sharing of assessment items such as MCQs (S_109)*

***Consider greater integration with other medical specialties in common areas.** Extend collaboration with other colleges and work towards common goals. This appears to be starting but is reliant on all colleges adopting a shared approach and letting go of their "patch" - this will pose various risks. (S_076)*

(S_131) reflects on a recent review of the Anaesthesiology Curriculum, and introduction of the CanMEDS framework in The Netherlands.

In my opinion the program should not only emphasize on anesthesiological skills, which must increase in level per year, but also on non-technical skills (such as communication, collaboration and professionalism), patient safety and scientific work. ... Every year a decision should be made whether the program should be continued or not, or that some extra time should be useful to achieve the goals. The excellent residents can do extra (scientific) work or shorten their training program. The year decision must be based on the assessment of the modules (S_131).

Links with Indigenous health

See S_097 for discussion of links with indigenous health.

C. The operational matters associated with the curriculum

Two topics are addressed in this section: matters associated with curriculum organisation; and issues specifically related to trainees, including selection, progression and wellbeing. Table 10 sets out the number of submissions identifying strengths, weaknesses and innovative ideas for curriculum organisation, while Table 13 sets out the equivalent information for trainees.

Table 10: Operational matters associated with the curriculum by strengths, weaknesses and innovative ideas

	Strengths	Weaknesses	Innovative Ideas	Total N of Submissions
The operational matters associated with the curriculum	57	60	50	98
Curriculum organisation	49	37	27	80
Consistency across sites, modules	6	16	11	30
<i>Private sector</i>	-	3	1	4
<i>Training in multiple facilities, rotation</i>	6	3	2	10
<i>IMGs</i>	-	3	-	4
<i>Rural and other training</i>	-	7	10	17
Framework	39	23	13	58
<i>Staged learning, outcomes</i>	-	1	13	16
<i>Experience required to complete modules</i>	-	3	-	3
<i>Balance of clinical experience, non-technical skills and course work</i>	6	7	-	11
<i>CanMEDS framework</i>	5	6	-	13
<i>Incorporates ethical and professional attitudes</i>	6	1	-	7
<i>Progression from basic to advanced training</i>	8	11	1	19
Clinical experience	10	8	7	25
<i>Accredited, rotated training sites</i>	6	3	7	18
Hospital compliance	-	-	-	1

Curriculum organisation

Major themes concerning curriculum organisation raised in the submissions relate to:

- consistency of content, assessment, teaching and learning methods and resources across sites and modules;
- the role of a framework in ensuring structured and sequenced progression from basic to advanced training and achieving staged learning and outcomes;
- the provision of clinical experience through accredited training sites and rotations.

Tables 11 and 12 below respectively present the intersection of comments about consistency and the framework with comments about the various aspects of teaching, learning and assessment. Concerns regarding these two facets of curriculum organisation have been included in discussion at the relevant points in Part A of this document above.

Table 11: Intersection of comments about aspects of teaching, learning and assessment with concerns about consistency showing number of submissions providing comments

	Consistency across sites, modules	Rural and regional training	Training in multiple facilities, rotations	IMGs
Content	7	3	4	-
Generalist training	4	2	3	-
Emphasis on subspeciality areas and skills	3	2	2	-
Module system	5	1	2	-
Difficult to achieve module completion	1	-	1	-
Poor teaching, supervision, support for some modules	1	-	-	-
Module 11 Education, scientific enquiry, Formal Project	1	-	-	-
Restructuring the Modular curriculum	1	1	1	-
Teaching and learning methods utilised	5	-	2	-
'Apprentice' style one-on-one training, practical experience	1	-	1	-
Supervision	1	-	-	-
Teaching contexts, consistency, variability	2	-	1	-
Assessment tools	5	-	2	1
In training assessment	2	-	-	-
Module assessment, sign off	2	-	-	-
Summative assessment	3	-	1	1
Examinations	2	-	1	1
Exam preparation	1	-	1	-
Final Exam	1	-	1	-
Learning resources	1	-	-	-
Alignment of teaching, content and assessment	1	-	1	-
Total N of Submissions	30	17	10	4

Consistency across sites and modules

Consistency was raised as an issue, primarily in relation to curriculum content and assessment, and to a lesser extent in relation to teaching and learning methods. These points are summarised here with cross references to more detailed discussions in Section A, and Section C in relation to trainees.

Inconsistencies raised in relation to the modules include:

- Professional roles, other than medical expert, are unevenly taught and of low priority;
- The modular system is not well supported at some training hospitals;
- Requirements for module sign off are highly variable.

With regard to teaching and clinical experience the following issues and perceptions are raised:

- Alignment between teaching and the curriculum is poor;
- There is little uniformity in the content of clinical teaching;
- Pro-bono teaching and assessment leads to great disparity of resources available to trainees;
- Consultant availability for teaching depends on state awards and varies greatly;
- There is no clear allocation of funding for registrar training from the State based public hospital system;
- It is a good principle of supervision to restrict the number of trainees per trainer;
- Training time should be counted in hours not weeks, which can vary widely between sites;
- Not all trainees come under an umbrella training scheme i.e. ones accredited for full training;

Other important sources of inconsistency are seen to arise from perceived disparities between experiences available in urban training sites compared with those available in regional and rural sites, and disparities resulting from the effects of rotations. Two additional sources of inconsistency identified by a small number of submissions are differences between training provision in the public and private sectors, and the differing needs and experiences of IMGs. Each of these issues is considered below.

Accredited, rotated training sites

The system of training site accreditation is seen to **maintain standards across the teaching institutions** and is the major way of ensuring consistency across the programme. It has significant influence in determining the quality of training: “we stand or fall on the functioning of our weaker hospitals” (S_074).

We are able to evaluate the delivery of the program at the coal-face, through data collection and interviews with a wide range of trainees, staff and management; improve delivery of the program, and contribute our experience to the College’s quality improvement process (S_015).

S_123 acknowledges that **having ANZCA accreditation for training has benefits for a hospital** in the following areas: recruitment and retention, at junior doctor and consultant level and in service provision.

It is felt that the accreditation of a Department by ANZCA should infer a high quality standard of clinical care and a faculty suitably qualified and resourced to maintain this optimal standard through rotations (see S_030). Accredited training hospitals can **participate in a rotational scheme**, facilitating trainee experiences of other clinical subspecialties and teachers (S_120).

The single Rotational Scheme in WA works very well due to our smaller numbers. No one WA accredited hospital can offer trainees access to a range of cases to fulfil all module requirements. Training resources from the various hospitals are pooled in a collaborative approach rather than in competition with each other (S_077).

See S_074 for a full discussion of issues including in-training/workplace assessment, modular assessment and understanding the limitations imposed by rotations arranged between hospitals within the one rotational training programme.

Rural and regional training

Of the seventeen submissions which comment on the consistency of training for rural sites most recommend that **training in rural and other alternative settings be supported** (S_115). Some hope that such training is **made compulsory** or a **rotational requirement**. However, S_113 asks how this would be managed in terms of teacher availability and support.

No rural focus in the training programme. It will be desirable to have a 6-month compulsory rotation for the trainees to work in a rural anaesthesia department (S_050).

Advantages and disadvantages of rural or other non metropolitan training are discussed in more detail in Part C: Clinical experience.

Training in multiple facilities, rotation

Comprehensive training builds good general knowledge and is seen to almost mandate moving around a **variety of hospitals** (S_067). Training in multiple facilities is encouraged and some states ensure this through a rotational system, seeking to avoid bottlenecks (cf. S_126).

The strength of the system (of state based rotations) is that all trainees are exposed to a broad range of practice and to all the sub-specialties (S_092).

Trainees in different sites are seen to have different and/or inconsistent training experiences due to: difficulties completing modules, missing elements of clinical work, limited numbers of cases available compared with the number of trainees competing for them; inability to access a rotation place, or simply the quality of the teaching they receive.

There is a high variability in curriculum delivery between departments (S_008).

Better co-ordination of rotations is deemed necessary e.g. several hospitals may offer module completion in the same modules, while no hospital takes responsibility for others (S_015). To address this College coordination and block rotations are suggested (S_042).

International Medical Graduates

It is reported that **inconsistencies can occur in integrating IMGs into the College**. S_094 suggests the role of IMGs is not well defined; that they often lack a supervisor of training and they do not follow the same modular training as local candidates. In other aspects, it is perceived that the training received by IMGs may not be equivalent: e.g. it was felt that assessment by examination may show bias against them and recognised that the support they need may be different (S_004).

A suggestion was that standards set by the College need validation by “measuring IMGs against ANZCA Fellows” (S_002).

See further discussion of the needs of International Medical Graduates below in relation to recognition of prior learning.

Private sector

Funding differences are seen as a barrier with regard to public versus private training. The forthcoming challenge to consistent standards is:

... how training in the private sector will be able to maintain and enhance the quality of the programme and the numbers of teachers required (S_063).

At present the resources of the private sector are considered under-utilized and there is little exposure to private practice during training (S_069).

Framework

The role of a framework in organising curriculum is perceived as relating particularly to the structure and sequencing of content and assessment. Submissions emphasise the importance of coherent progression from basic to advanced training, and of staged learning and outcomes. They also discuss the relationship between the CanMEDS Framework and the ANZCA curriculum programme. A small number of submissions also see a framework as influencing the balance between clinical skills, non-technical skills and course work; and affecting the experiences required to complete all modules successfully. Table 12 shows the distribution of comments on each of these issues across the range of topics discussed under Content and Assessment in Part A above, which will further inform the discussion which follows.

Favourable points are made generally about the framework's organisation, sequencing and scope and its content, method, assessment, up-to-date resources and website presentation. The framework also received favourable comment for its comprehensiveness, fairness, and clarity of description. **The programme ensures trainees experience an "orderly advancement through training"** (S_049). Trainees receive a benchmark level of exposure to the breadth of anaesthesia practice in a systematic framework.

The major strength of the program is that there is a well developed curriculum, and adequate exposure to practical experience. At the end of training, registrars will have covered all the major aspects of Anaesthesia, and had a reasonable caseload in all the sub-specialties. This is well organised from the majestic point of view with the college (S_066).

Progression from basic to advanced training

This section focuses primarily on curriculum elements ensuring progress from basic to advanced training. Trainee experiences of progression and achievement are dealt with in the Trainee section.

Separation of the curriculum into basic and advanced training is perceived as useful as it allocates curriculum areas to different parts of training and **assists departments in delivering the programme** (in terms of rotations, rostering and support) (S_015).

A perception exists that the division of training into basic and advanced components attempts to control trainees' progression, forcing them to do the more **complex modules in advanced training** (S_039). Progress from basic training to the advanced modules and the time split between advanced and basic elements seems appropriate (S_130).

However, some submissions find **the division into basic and advanced training** is not meaningful, useful or realistic. For example:

- In the hospital environment distinctions between what is introductory (Module 1) and what is major (Module 3) are somewhat artificial (S_020);
- The concept of "basic" and "advanced" training modules is a hindrance to learning; and bottlenecks inevitably occur (S_021);
- Advanced training opportunities are limited by the availability of sub-specialist experience and are not achievable by some trainees (S_022);
- Trainees describe the real difference between basic and advanced training as having passed the Primary Exam, rather than any other progression (S_008).

Further comment that the primary exam is a false or inadequate indicator of readiness to progress to more advanced training appears in the previous discussion of the primary exam.

Table 12: Intersection of comments about aspects of teaching, learning and assessment with opinions regarding the role of a framework (number of submissions)

	Framework	Progression from basic to advanced training	Staged learning outcomes	CanMEDS framework	Balance of clinical experience, non-technical skills and course work	Experience required to complete modules
Content	20	4	8	1	6	2
Generalist training	9	3	1	1	3	1
EMAC, EMST	2	1	-	-	1	-
Emphasis on subspecialty areas, skills	7	1	1	1	2	1
Peri-operative medicine	1	-	-	1	-	-
Regional anaesthesia	3	-	-	1	1	1
Module system	16	2	8	-	1	2
Module 1 Anaesthesia & Pain	1	1	-	-	-	-
Module 2 Professional Attributes	1	-	-	-	-	-
Module 3 Anaesthesia for Major and Emergency Surgery	2	1	1	-	-	-
Module 9 Intensive Care	1	-	1	-	-	-
Module 11 Education, scientific enquiry, Formal Project	1	-	-	-	-	-
Module 12 Professional Practice	1	-	-	-	-	-
Restructuring the Modular curriculum	8	-	8	-	-	-
Add modules, topics, wording	5	-	5	-	-	-
Airway Management	5	-	5	-	-	-
Modify modules, topics	6	-	6	-	-	-

Table 12: Intersection of comments about aspects of teaching, learning and assessment with opinions regarding the role of a framework (number of submissions) (continued)

	Framework	Progression from basic to advanced training	Staged learning, outcomes	CanMEDS framework	Balance of clinical experience, non-technical skills and course work	Experience required to complete modules
Assessment tools	18	5	6	3	4	2
Clinical exposure, competence, timing	3	-	3	-	-	-
Competency based	1	-	-	1	-	-
Consistency, continuity and variability	1	-	-	1	-	-
In training assessment	5	1	-	2	2	1
Feedback	2	-	-	1	1	-
Log	2	1	-	-	1	1
Summative assessment	8	4	1	2	1	1
Examinations	8	4	1	1	1	1
Primary Exam	6	4	-	-	1	1
Learning resources	2	-	1	-	-	-
Teaching and learning methods utilised	5	-	-	1	2	1
'Apprentice' style one-on-one training, practical experience	3	-	-	1	1	1
Portfolio of Learning	2	-	-	1	1	1
Supervision	1	-	-	-	1	-
Alignment of teaching, content and assessment	5	-	1	1	1	1
Total N of Submissions	58	19	16	13	11	3

Limitations imposed by rotations arranged between hospitals are also perceived to affect the usefulness of the distinction between basic and advanced training:

... this prevented us specifying more modules as advanced or basic, as we needed to allow trainees to count their experience towards their training, no matter at which stage of training it was acquired (S_074).

Suggestions to address the issues of Basic and Advanced training that were identified included:

Prioritise and formalise Basic training:

Because our trainees are relatively junior and have little or no prior experience, we need to ensure they have a consolidated period of learning at this point (S_047 – see this submission for detailed discussion about progression from Basic to Advanced).

Relate progression through training to clinical competence. For example:

At the completion of each module the Trainee should be acknowledging that level 1 supervision (in the area of the module) is no longer required for patient safety. Level 1 supervision may still be useful for teaching. (S_045 - see this submission for a detailed discussion of more appropriate division between Basic and Advanced training).

See S_052 for a staged approach in which trainees demonstrate levels of increasing competency.

See S_051 for a proposed redefinition of levels of training:

Basic training Y 1-2: Competence in low to moderate complexity cases ...

Advanced training Y 3-4 Competence in moderate to high complexity cases ...

Subspecialty training Y5+ Competence in specific areas not deemed necessary for all Anaesthetists.

Suggestions for improvement include:

- Distinguish between education and training;
- Integrate with other programmes and connect with medical education at Universities e.g. the CanMEDS aims should be integrated at the medical student level;
- Define clinical experience and knowledge to include the varieties of anaesthetic practice.

Staged learning and outcomes

The potential of introducing trainees to a subject at increasing depth at different time points over the training time was viewed positively. Associated with this was the possibility to outline specific competencies expected of the trainee from one year to the next (S_004) and having basic and advanced components to each module (S_021). See S_024 for a suggestion of how an airway skills module could be taught in a staged way. It was identified that course outcomes should also be sufficiently details to indicate levels of understanding or expertise required (S_041).

Benefits of adopting such an approach were outlined. As trainees would have demonstrable levels of increasing competency and expertise it was thought that this would help to plan their:

Ability to be on call (i.e. recognize potential issues and call for help appropriately)

Ability to manage simple cases

Ability to manage complex cases

Ability to work as a consultant in the CanMEDS model – e.g. planning a list, communicating well, teaching in theatre and outside, etc (S_052).

It was considered that some sort of planned and systematic **curriculum mapping would be useful**, formally outlining the expectations for each level of training.

It would give both the trainees and supervisors guidance and help ensure that trainees are on track (S_033).

Define ... the scope of practice of a general specialist anaesthetist (core) and what requires subspecialty training (S_051).

Suggestions for **increased electives and choice** within the programme include:

- Divide training into “**core**” (requirements that must be fulfilled by all graduates of the programme) and “**elective**” (part of defined sub-specialty training) (see S_033, for example).
- Independence in choosing **elective elements in training is recommended** as not all trainees will need to take all subjects in depth (S_017).
- A **graduated programme with potential for early exit** with different qualifications (see S_025 for examples including topics for “**optional**” electives).

... look at different qualification levels that recognise different levels of expertise. ... ANZCA needs to adopt a whole of anaesthesia education/training effort that recognises levels of expertise, matched to clinical roles (S_076).

- Provide anaesthetic training for the various medical practitioners requiring it.

A commitment to providing training and experience for non-anaesthetists who require some anaesthetic skills as part of their practice, such as rural or procedural general practice, emergency medicine, intensive care, retrieval medicine (S_115).

CanMEDS framework

Opinion of the CanMEDS framework is varied. On balance, submissions **approve of the aims and intentions of the framework** although one submission (S_044) considers them to be of no value. The CanMEDS system is generally viewed as a useful way to characterise the curriculum, and one with **extensive validation** within the Canadian context. **It has been adopted by other Australasian colleges** (e.g. RACS) (S_130) and aligns with New Zealand views on health professional accountability (S_112).

... CanMEDS model ... provides a comprehensive framework that develops a well-rounded medical professional (S_101).

S_122 acknowledges that **competencies identified** within each of the roles reflect a **broad combination of generic and specific skills and attributes** that are the desired graduate outcomes. It is asserted in this submission that the key to achieving these outcomes is **the design of evaluation and assessment tools specifically linked to them**.

It is felt that the training programme emphasises CanMEDS roles but most submissions question the extent to which **roles other than medical expert** have been, or can be, **taught or assessed** in a systematic way. For these roles, it is stated that **there is neither guidance nor summative assessment** provided in the "Curriculum Modules book" (S_121).

Many of the CanMEDS roles other than Medical Expert are mentioned everywhere but taught or assessed nowhere! (S_119)

Some submissions view the CanMEDS approach as representing an idealistic model and that it is inappropriate that some of its content be mandatory e.g. management. This may relate to the lack of application to the anaesthetic setting.

The teaching programme needs to decide what is reasonable to assess and able to be assessed in an objective manner (S_093).

Balance of clinical experience, non-technical skills and course work

Balance in the curriculum is understood in two ways: balance across the elements of the programme as a whole is valued and is addressed by this section of the report. In addition, “well balanced” units of work such as EMAC are mentioned as exemplary and holistic learning experiences (see Part A: Content).

- To make good decisions, it is considered that a specialist anaesthetist requires appropriate knowledge, practical skill and a clinical perspective. It is considered that the current programme builds this combination of abilities (S_044) and that the curriculum has a good balance of:
- essential clinically focused content
- professional development activity
- personal development and consideration of life issues
- legal and ethical considerations (S_132).

Imbalances are considered to exist in the following areas and ways (detailed in the section on learning clinical skills in Part A of this report):

- some important clinical areas receive insufficient emphasis in the curriculum, for example regional anaesthesia;
- examinations can dominate the trainees’ experience of module learning and clinical practice;
- the primary exam does not mesh effectively with other parts of the curriculum;
- there is little uniformity in the content of teaching programmes;
- supervision requirements for junior trainees can disadvantage senior trainees assigned to service lists;
- between the subjects for cardiac, paediatrics and ICU;
- practice requirements for clinical experience.

It is considered that appropriate cross-college collaboration and standardisation should be a priority.

Standardisation across the specialist medical colleges needs consideration in order to avoid unnecessary duplication and to promote improved transfer between specialist areas. The common areas of the curriculum that apply to all medical specialities should be agreed on and maintained (S_076).

Experience required to complete modules

This section summarises longer discussions under ‘The Module Programme’ and ‘Module assessment and sign-off’ in Part A. See these sections for more detailed discussion.

The module system is intended to ensure all trainees are exposed to most areas of practice. What is illustrated in the submissions is that requirements for specific amounts and kinds of experience have created problems for module completion. Rotations, and competition for placements, can delay trainees getting access to certain “bottleneck” modules. This can prevent them moving through the training programme at an appropriate rate.

Incorporating ethical and professional attitudes in the framework

The structured training, based on modules, is seen to incorporate ethical and professional attitudes, covering a number of areas not traditionally part of postgraduate specialties, e.g. the ability to teach (S_130).

In practice the delivery of these curriculum elements is considered inadequate due to poor teaching, assessment and support. Many of the listed professional roles are not taught at all and most professional skills are learned by modelling by colleagues, together with didactic opportunities post-fellowship (S_006)

See S_112 for recommendations for those practising in New Zealand, including emphasis on ethical conduct, cultural competencies and communication.

Clinical experience

Most teaching is carried out in a clinical setting which is viewed positively as a means of enhancing understanding and relevance. It is reported that the variety of clinical experiences required is set out clearly in the modules; but the volume of practice required is not.

There is a suggestion that currently trainees exit the training programme with **insufficient clinical experience** (S_054). For example, not all trainees have adequate experience with advanced airway equipment or techniques and therefore lack competence to deal with difficult airways (see S_065 submission for detail).

Submissions report a perception that the time available for clinical practice is now less: actual working hours have decreased though training years have remained the same (S_074). It is considered that the clinical skills required in basic training are too many and too specialized to be learned in a short time. In addition, they have to be mastered while preparing for a major exam (the ANZCA Primary Examination) and this is considered problematic (see S_072 and S_085 for further details of this discussion).

The suggestions is made that the type and quality of clinical training offered to trainees in different sites varies (e.g. paediatric anaesthesia and major trauma) (S_008) and that safeguards are required to increase consistency.

One submission suggests this situation is unlikely to improve in the future:

Clinical experience will be more difficult to attain, especially with the doubling of graduates in Medicine in the next few years (S_063).

Time taken to meet training requirements

In general, a **five year training is thought appropriate** to provide adequate clinical exposure in most circumstances (S_039) although some diversity of opinion was expressed.

Some question that since only 33 months of the 5 years is clinical anaesthesia, **training time may be unnecessarily long** (S_053). One **suggests a tiered approach to anaesthesia training** that results in two anaesthesia qualification levels requiring different lengths of training and recognising different competency levels (S_076).

On the other hand some, for example S_037, think **training time is too short** as few trainees can master the desired competencies within these time frames; and various leave entitlements can distort the amount of time counted towards training. A practical resolution was recommended which was that it may be more realistic to count hours of experience rather than specifying weeks.

S_002 points out the working environment has changed and this has meant the **hours available for work experience have been greatly reduced** but mandated training time has not been altered to compensate for this.

... there has been a continuous decline in clinical exposure and therefore the anaesthetic minimum requirement should be increased from 33 months to 36 months and for Intensive Care minimum requirement increased from 3 to 6 months (S_045).

At the moment, **years of experience are accredited rather than skills**. However, it is identified that time spent in different environments does not necessarily mean that specific skills have been acquired in that environment (S_107).

Experience required to meet training requirements

Collectively, the **requirements for specific volumes of experience and increasing numbers of trainees** are seen to have created problems for module completion and training bottlenecks for some modules. **Training opportunities are limited** by availability of sub-specialty experience (e.g. trauma). It is reported that trainees may have to wait to do these modules, even finishing their course time with a module incomplete and that they may also be in competition with new Fellows wanting to make up missed experience.

“The number of cases/sessions required has now become a little arbitrary” (S_047). It is perceived that rigid adherence to the requirements within some modules means that some trainees have gained a large amount of anaesthetic experience but can't get their fellowship (S_053).

The inability of registrars to access specialty terms due to a shortage of available places is obviously an issue for junior doctors as these terms are a mandatory part of the curriculum (S_099).

See S_017 which suggests that **trainees could shape their own training programme**: with a shorter exposure to all the speciality areas, and then electing to spend more time later in their training if they wish. The reintroduction of a provisional -fellowship year may be appropriate.

Additional time and training

There is support for a Provisional Fellowship Year within the 5 year training period which allows advanced trainees to dedicate a year to their subspecialty interests. Some departments provide educational sessions for Provisional Fellows to prepare them for specialist practice.

Provisional Fellowship year is valuable, allows for the transition from trainee to specialist and helps foster "the consultant like approach" and allows an opportunity to become involved in departmental affairs (S_010).

The loss of a compulsory Provisional Fellowship Year (PF) is seen as a step backward by many anaesthetists. Requiring all trainees to do a PF year is considered to be valuable (S_010). Some consider that it should be re-introduced even if it extends training by another year, especially since overall training hours have been reduced (S_002). An advantage of reinstating the Provisional Fellowship is seen to be that it would increase case exposure.

It is my impression that trainees exit(ing) the training program are a bit light on clinical experience and thus their decision making is at a low standard. The traditional PFY year seemed to address this. Trainees who have managed to fulfill the modules early and have experienced a PFY are in my opinion of a significantly higher standard (S_054).

As the training programme stands currently **the fifth year is perceived as a wasted opportunity** for many candidates.

... the training programme could be shortened ... by reverting to a four-year programme and reserving the fifth year for proper fellowships (S_066- see for further discussion).

A further suggestion was made to support a PF year in which candidates are supervised as 'provisional' consultants to allow for clinical maturity, subspecialty development and assessment of professional attributes (S_016).

I strongly support the concept of a full year after the final examination to encourage the Trainee to develop life-long skills in education that are not driven by the examination system (S_038).

Some perceived the benefit of the PF being located after completing the Final Exam and after trainees had demonstrated advanced core skill competency and appropriate professional attitudes and behaviours. It is suggested that such a **pre-specialist year should focus on subspecialty skills**, competency tested to proficient levels and

display professional behaviours such as an understanding of quality assurance, advanced communication skills, medical ethics, medical education and management (S_046).

See (S_064) for a proposal to increase the training programme to 6 years.

In the NZNC curriculum review feedback, the question was raised about whether the training is long enough? In the UK it has been extended to seven years and is in three parts. NZNC understands this time includes a period on a provisional fellowship. It is likely that there is insufficient case exposure in New Zealand in 5 years. Reinstating the Provisional Fellowship would mitigate that problem (S_002).

Rotations required for training

The **rotation schemes** were viewed positively although, conversely, their existence was linked to delaying completion of training and cut across the time required.

Well managed rotations were viewed as having the potential to ensure all trainees (including IMGs) are provided with the appropriate supervision and mentoring.

Ensure all trainees are part of a structured program i.e. formalised networks of accredited hospitals providing trainees with access to all the modules required to complete training and appropriate rotations to rural and outer metropolitan areas, and tertiary and non-tertiary hospitals including private hospitals (S_126).

Issues surrounding **training schemes and rotation sites** draw contrasting comments. For example, S_084 **considers too much training time can be accredited out of tertiary centres** within a rotational training scheme, and argues it should be limited to 15 months of the 33 months of required anaesthetic time. Other submissions **strongly favour training time out of tertiary centres** e.g. rural rotations (S_050, S_015). Consideration needs to be given to **working in a variety of areas** during the training scheme – e.g. private practice and smaller hospitals (S_037).

Given module ‘bottlenecks’, S_043 notes that **enforced rotations would free up places in city hospitals** for junior or rural registrars to complete module requirements.

Training advantages from serving on rural or regional rotations

It was considered that smaller hospitals give trainees more confidence, by providing more supervision, individualised attention and opportunities to practice.

We find that trainees that have spent time working in smaller peripheral hospitals have more confidence and are able to progress faster. We believe that this is because they get one-on-one training from a smaller pool of Anaesthetists who get to know them well and allow them to do more. We recommend a period of 1-2 years working at a smaller peripheral hospital during the early years of the training programme (S_119).

The view was expressed that if trainees were required to do some of their training in regional centres there would be a positive payoff in terms of clinical exposure and increased responsibility provided equivalent supervision is mandated by the College (S_083).

There is good material in country and regional areas where many professional aspects of anaesthetic practice could be learnt (S_006).

Such training is viewed positively as it provides valuable insight via experience into the difficulties and ramifications of practising in remote locations.

Many of the scenarios we present to prospective fellows in the exam are situations away from tertiary hospitals, with limited resources to call on...i.e. real life for those of us in regional areas! (S_043 – see also for discussion of the benefits of this training)

Some submissions support a **compulsory** period of training in non-tertiary referral hospitals. All FANZCA training rotations include positions in one or more smaller provincial hospitals (S_002). See S_054 for a thoughtful analysis of problems in running a local rotation scheme and an exploration of global issues that may ultimately affect local schemes.

Training disadvantages in a non-metropolitan region.

It was reported in the submissions that trainees generally see professionals as being clustered in major metropolitan cities and perceive regional training as less desirable. As a result it is perceived that many are unwilling to deliver health in the regions.

There is a view that rural training sites are often inadequately supported and there may be “inconsistent exposure for many trainees in rural/ regional practice, and loss of emphasis on some of the skills” ... (S_091).

Something has to be done about the city-country divide, which prevents rural trainees from getting their advanced modules because of sheltered workshops in city hospitals (S_081).

Non-affiliated trainees

ANZCA accredits a hospital department rather than individual positions, it was therefore reported that:

... any anaesthesia registrar in that department can accrue accredited training - although they may not be part of a rotational training program (S_126).

A problem was identified in that **non-affiliated trainees have accredited time without accompanying module** achievements. The perception exists that they face tremendous pressure to complete their training in the remaining time which impacts on other trainees’ ability to complete modules (S_042).

Non-affiliated trainee positions are reported to put pressure on rotational schemes meaning that it is difficult to **regulate overall trainee numbers in a region** due to significant numbers of ‘non-aligned’ trainees (S_041).

Educationally, **non-affiliated trainees** are viewed as effectively acting as their own rotational supervisors.

... employing departments (and the training network) may not be able to incorporate all recognised (ANZCA - accredited) prior learning into the planned rotational structure for a ‘partially trained’ trainee (S_126).

Centralised, uniform training experience

Some submissions support including all trainees under a centralised training scheme using a formal teaching programme (S_019). The view was expressed that a state based education programme could potentially provide for all trainees, with non-clinical time mandated by the College. This would help to standardise training across different rotations (S_013). State based seminars for trainees at the same level of training, including video links, were viewed as providing valuable opportunities for trainees from different institutions to discuss approaches to anaesthesia (S_092).

The elements of a formal teaching programme could include:

- uniform delivery of teaching material and assessment in core areas of anaesthesia;
- increased centralised teaching of core competencies;
- standardised assessment of competencies across sites and supervisors;
- more learning resources and examination preparation;
- increased use of computer based education with online content, teaching and assessment, and video conferencing, to improve access for all trainees.

See S_126 for concerns that **independent trainees may receive sub-optimal training** because they do not receive ongoing mentorship and continuity of supervision throughout the duration of their training.

Trainees

Table 13: Strengths, weaknesses and innovative ideas relating to trainee entry requirements, selection processes, progression and wellbeing showing number of submissions commenting on each aspect

	Strengths	Weaknesses	Innovative Ideas	Total N of Submissions
Profile of selected trainees	15	25	16	48
Entry and selection processes across training schemes	5	10	7	23
Recognition of prior learning, training exchanges, transfers	2	10	9	24
Trainee progression and achievement	16	42	32	64
Identify, address deficits in trainees	5	15	4	22
Funding	-	3	-	3
Trainee support and guidance	11	7	4	18
<i>Failure</i>	-	-	2	2
Time, experience, rotations required for training	7	22	23	41
<i>Centralised, uniform training experience</i>	-	-	5	5
<i>Additional time, training</i>	6	6	7	15
Relationship with College	1	9	8	17
<i>College functions</i>	-	-	7	7
<i>ANZCA accountability</i>	-	4	-	4

Profile of selected trainees

Those who value trainee selection processes argue that they select excellent trainees from a talented pool of doctors with suitable attributes.

The current process allows for candidates with a variety of personality types and interests to enter anaesthetic training. This breadth is good for the profession (S_044).

Selecting trainees who will become good clinical anaesthetists is necessary but the view exists that trainees also have to be selected who demonstrate potential for leadership, teaching and research (S_007).

Personal attributes of altruism, honesty and public duty are considered essential (S_093) and some submissions favour a **form of vetting process** (e.g. an aptitude test, letter of recommendation) before a trainee can enrol in the programme (S_009) or screening trainees through interview and references (S_018).

Entry criteria and selection processes across training schemes

Concern is expressed that the most promising doctors are not always selected. It is perceived that undue weight is given to the trainee's primary exam status: successful primary candidates may have limited clinical experience yet it is perceived that these people may be given training positions over others "*which reflects negatively on our specialty*" (S_080). Some appointments to training positions from a local hospital are seen to be somewhat arbitrary:

...often someone who just happens to be in the right place at the right time is given an anaesthetic registrar job based on little else" (S_034).

Trainees tend to select themselves and at times the quality may reflect hospital roster requirements. This potentially may be an increasing issue (S_093).

There is a divergence of opinion in this area and the programme is also seen to be open to all applicants with a transparent entry process, with fair 'entry points' for trainees of differing prior experience joining the programme (S_016).

It is also highlighted that it is possible to join the programme by registering with the College as a Trainee and sitting the exams without being part of a rotational training scheme (S_077).

Pre-vocational requirements

It is considered important the College requires two years in general medical and surgical training before gaining access to the training programme (S_093).

The push to reduce this time must result in one-dimensional specialists with limited knowledge and experience outside of specialty (S_121).

S_064 suggests **minimum entry criteria to register as a trainee**: 6 months emergency medicine, 6 months general medicine, 6 months general surgery, 6 months other surgical speciality.

However, S_054 proposes that trainees enter into training at an earlier stage, since the prevocational years have little advantage for them, offering primarily administrative experience rather than enhancing medical skills. (See S_054 and S_053 for a review of training time options and allocations.)

There is a view that the requirements for **12 months prevocational medical education** can postpone the trainee's rotation due to the service need of a department. In these circumstances:

... it will be more flexible and the trainee will benefit more if the 12-month non-anaesthetic training can be carried out any time within the whole training program (S_035).

Some favour an **introductory course** for anaesthesia (S_002) or a "Diploma of Anaesthesia" (S_042). A call for greater vertical integration and consideration of prevocational training was made:

The ANZCA curriculum review should ensure there is engagement on where the prevocational curriculum framework ends and the college programme begins. The Training Board encourages ANZCA to consider an earlier start to the college programme than is currently in place (S_113).

Selection processes

ANZCA does not select trainees but rather **delegates this responsibility to individual hospitals**, allowing them to create positions on the basis of workforce/service needs. Some submissions would prefer a return to an earlier selection process where **trainee selection was a function of ANZCA**.

... it doesn't make sense to me to invest so much in the training of people once admitted to the programme but to have no say in their initial selection (S_034).

A **state based centralised recruitment/selection process** (similar to RACS) was considered to be in the interests of all stakeholders (S_070).

Co-incidentally with the implementation of the 2004 FANZCA Program revision, there was a policy change, whereby ANZCA ceased to control trainee numbers, so that ANZCA accredited individual training hospitals, and those hospitals could employ as many trainees as they wished, as long as they adhered to ANZCA policies, such as supervision levels (TE3).

This change had significant impact on the Fellowship's views of the training program, and many of the objections to the 2004 revision were in fact related to this policy change instead (S_074).

Although all trainees are not under an umbrella training scheme, **regions and rotational training schemes are now considered to select their trainees using accepted processes**. TAC is viewed as being instrumental in making this happen in some regions. S_039 notes that “pressure to run official interviews in Tasmania has been a positive move”. Local selection of trainees into training schemes has advantages (S_034) but selection is heavily dependent on the **'approved' hospital department or sites** (S_107).

Current **prescribed selection processes** for new trainees include explicit guidelines on trainee selection and the interview process, and clearly identify standards and expectations of candidates.

It is reported that **the timing of selection processes** allows a reasonable lead-time from selection and appointment to commencement of position (S_064). However, it is considered important that these processes are standardised across Australia and New Zealand and followed by departments and supported by hospital HR.

Suggestions for improvement include:

- “Trainees should be appointed by the rotation to which they will be part of rather than the individual hospitals that make up the rotation” (S_002);
- Development of standardised, rigorous selection criteria to be used by all training schemes;
- Making clear to trainees from the outset how much prior learning is being accredited;
- A rotational system with a robust selection process that can stand up to scrutiny.

The following quote raises the additional challenge of increasing enrolments:

*The current programme is a good one, so review should consolidate the good and add better. **A major challenge alluded to above is how the expansion in trainee numbers from about 2011-12 will be managed**, especially with private sector training. It will be important to ensure that the concepts of the revised programme be moved through into IMGS training, and into CPD (S_063).*

Recognition of prior learning, training exchanges and transfers

The College allows recognition of prior learning: two years of training outside ANZCA training regions and 24 months outside anaesthesia and intensive care medicine. It is viewed as appropriate for ANZCA to acknowledge clinical experience undertaken outside of Australia in high quality teaching hospitals.

... while ANZCA recognises time in other training schemes the more hardline definition of RPL would mean cutting the total anaesthesia clinical experience time further (S_074).

Some trainees feel the College **is insufficiently flexible** with respect to recognition of prior learning (S_015).

It is important that the College recognises the prior learning obtained by trainees from other fields and training programs as well as previous experience in anaesthetics (S_099).

Other submissions suggest that requirements for obtaining credit for prior experience and training are not clear. Examples cited include:

- Previous ICU training which is accredited for module completion is not recognised as prior learning for the “core” ICU component of training (S_087);
- It is considered inconsistent and could be perceived as unfair when research, unrelated to anaesthesia and pain medicine and conducted prior to FANZCA training, is accredited for Module 11 requirements (S_046).

It is reported that recognition of training and learning in related areas of other specialties could be expanded to improve:

- lateral transfer from other disciplines (S_115)
- recognition of the importance of a cooperative approach to training across specialties (S_105)
- consideration of a process of reciprocity between the European Diploma Examination of the ESA and ANZCA examination (S_110)
- specific ADF courses should be recognised by ANZCA as relevant to Anaesthetic practice in the military and more generally in the ‘austere’ environment (S_091).
- opportunities for regular 'training exchanges' between training departments in Australia and Singapore S_016.

Recognition of prior learning for overseas trained doctors is complex. Issues raised by submissions include:

- considering ways the curriculum can be used to assess overseas, 3-year-trained anaesthetists, so clear guidance can be given to these doctors (S_022).
- considering an ANZCA “bridging course” to assist overseas trained doctors to enter the College training program, as well as taking pressure off the IMGs processes (S_001).

Trainee progression and achievement

The current programme is seen to provide structure and guidance for trainees and trainers as to what is required in the overall training time and in the particular modules.

It is a well defined pathway through training, provide modules completed and examinations passed successfully (S_121).

Trainees and teachers can have detailed knowledge of progression requirements as these are **set out in the College website and regulations**. However, **progression to the next training year** is considered unclear and neither assessment based nor competency based.

The new curriculum could consider what a trainee should be able to do by the end of each training year. This “steady progression” through the training years would help guide trainees, and would help struggling trainees be noticed (S_008).

In addition, detailed guidelines regarding trainee progression **beyond Level 1 supervision** need to be formalised. See S_065 for details of one hospital’s initiative.

The programme “consolidates essential knowledge and skills for clinical work as well as continuous education or clinical audit after completion of the fellowship” (S_050). It is perceived that the College makes a commitment to assist candidates through the entire process of becoming a specialist and provides appropriate assistance to candidates who have difficulties (S_044). Some submissions indicate that these objectives are not always realised:

Lack of available experience or poor understanding of the process impairs progression for some trainees (S_015).

The complexity of the certification process, leads to incoherence and inconsistency, leading to a large number of exceptions and anomalous outcomes. That being said, by all accounts, those who achieve Fellowship richly deserve to do so (S_078).

The programme is viewed as being **designed with flexibility** to allow for prior learning and alternative experiences although some submissions dispute that this aim is met. For example:

Too rigid in all areas: pre-requisites for entering training; training requirements; skills and knowledge required for such a diverse range of eventual anaesthetic careers (S_053).

See Part A “Flexibility” for further discussion on the subject of course flexibility.

S_034 points to **poor centralisation and co-ordination of training** and suggests centralised, co-ordinated, set training positions with a planned four year training programme. One scenario seen to result from the current arrangement is that:

registrars can be half trained, i.e., they can receive 1 or 2 years training at one hospital, and then have to fight for more senior jobs elsewhere (S_034).

Suggestions were made regarding how to maximise regional training capacity:

- use other education and training opportunities, particularly with universities, to provide anaesthetic education in Australia and the Pacific;
- be flexible about accrediting posts e.g. distance supervision, involvement in supervision from intensivists or GP anaesthetists.

*Mandating certain professional and personal characteristics is reasonable. However, professionalism includes the responsibility of **recognizing the limitations of ones scope** of practice. Defining clinical experience and knowledge too rigidly may not be appropriate in light of the vast number of different sorts of practices Fellows work in (S_053).*

It is also suggested that allowance be made for accelerated progression for high performing trainees (S_105).

Identify and address deficits in trainees

In some views, the module system and the ITA processes make it easy **to identify deficits in individual training** and there are supervisor guidelines and policies to help **manage under-performing trainees**. Ongoing assessment and feedback identifies trainees’ problems and allows these to be addressed.

Some sites implement excellent remedial programs for trainees with technical or non-technical weaknesses (S_015).

However, there are serious concerns regarding the ways in which trainee deficiencies are identified and addressed. See Part A: In-Training Assessment for a discussion of the main points including:

- Inadequate tools of assessment and lack of agreement about acceptable levels of performance;
- Difficulties in identifying trainees who are failing or unsuitable;
- Addressing trainee areas of weakness and assisting poorly performing trainees;
- Assessment reports should be accurate (not diplomatic) and handed on to the next rotation;
- Processes for removing incompetent or unsuitable trainees.

Other points regarding trainee deficits include:

Lack of resources to help sub-standard/failing trainees:

... some suggestions include 1) Access to an educational psychologist 2) Some work-place assessment by an independent source 3) Structured assessment forms for departments to use 4) Simulation based assessment which has, for example, been used in medical board cases (S_058).

Lack of adequate supervision:

It is suggested that academic, clinical and/or behavioural problems need to be identified early and that an assessor should have to observe a trainee for a minimum number of occasions or lists before becoming eligible to assess the trainee. See S_042 for this discussion in its context.

Lack of explicit, well-defined dismissal processes:

We need a far more robust system to identify and remove from training those individuals who display unethical or dubious behaviour, preferably early on. ... Nobody wants to be the unit/hospital/person who finally deals with someone who is hopeless or unethical (S_036 – see also for the full discussion which refers to the legal implications).

It is reported that trainee contracts help address incompetence and/or unethical behaviour but there are still issues:

Trainees are concerned that ... once one is an accredited Trainee, as long as one completes all the curriculum requirements, one is almost guaranteed Fellowship after the requisite training period is complete, irrespective of one's interactions with other Trainees, Fellows, patients and other hospital staff (S_011).

Funding

Difficulties are considered to arise due to the separation of training issues (the College) and funding (Departments of Health).

There is a perceived lack of understanding and engagement with department of health (funder's) priorities. This may undermine ANZCA ability to implement a new curriculum e.g. mandating a certain amount of paediatric exposure with an inability to fund such exposure (S_025).

Improving cooperation between funders and ANZCA is viewed as being beneficial e.g. making in-training assessment reports available to employers to ease the workload around difficult trainees.

It is perceived that there are funding discrepancies between state funding allocation for registrar training in public hospital systems and federal funding for specialist training in private hospitals that are unclear and unhelpful.

Trainee support, guidance and well being

Factors supporting trainees include formal, semi-formal and informal elements in the programme.

Formal elements include: the structure of the programme, the curriculum itself, an effective rotation scheme and the relationship with a supervisor. These can be valued supports. For example:

The trainees speak very highly of their SOTs, in terms of their advocacy within the department and their guidance with regard to workplace and personal issues (S_015).

We also feel that we are almost universally better supported than Trainees in other disciplines (S_011).

Areas of disappointment or inadequacy identified around formal elements included: poor supervision, poor teaching, poor support of specific modules, systemic barriers to meeting module requirements, lack of support from College offices. S_019, for example found trainee support and guidance to be: "...Very institutional and training scheme dependent".

Semi-formal arrangements to support and guide trainees include:

- Training Agreements defining responsibilities and commitments
- Regional and National Trainee Committees
- Trainee newsletter

For example:

The Victorian Trainee Committee has been a positive initiative. It has provided a good forum for exploring trainee issues and giving trainees a voice (S_051).

It is considered that more could be done at this level. For example, it is reported that the College needs to nurture the trainee committee structure and provide adequate resources. See S_002 for details on this point.

Other initiatives which have been considered successful include:

- Orientation sessions addressing non-clinical issues like professionalism and personal healthcare.
- Mentor programmes operating outside the ITA process.

Three suggestions for improvement follow:

- **a mentor programme auspiced by ANZCA** with administrative support (S_092). See S_013 for further details.
- the presence in each training department of **a welfare officer with prescribed duties** should be a criterion for accreditation of training institutions (S_092, S_013).
- **a special group to give professional advice**, including on career options, to potential trainees and to care for the welfare of trainees once they are enrolled (S_009).

We think that it is now important for ANZCA to increase its role as a training institution/body and ... provide better teaching and learning support for its trainees...

... We would like to see a standardised approach to trainee 'well-being' where a positive, proactive approach is taken in the training program (S_092).

Trainee failure is discussed further under the topic of In-training Assessment.

Relationship with the College

Submissions indicate that the College **focuses on issues of importance to trainees** through the training programme (S_119). However, communication between the College and trainees is not always clear or effective and many trainees have **a negative perception** of the College, commenting on "difficulties they have had **accessing support from the College offices**" (S_013). Trainees also become disillusioned with "the College" if they have been let down by their SOT, the College's ambassador (S_072). The College is commended for their efforts to improve the relationship with trainees.

The College has worked hard in the last few years to involve trainees (Training committee/trainee reps) in College processes, to improve communication and make dealing with the College more efficient (S_046).

It is reported that there needs to be **better communication about trainee performance** between national training committees and the College. More support is required from the College (for trainers and trainees) when trainees perform poorly.

Elective learning opportunities approved by the College are considered to be narrow, most are not community-based and fail to reflect the diverse regions in which health is delivered in Australasia.

College functions

The perception is reported that the College should make its functions and relevance better known. A component of College-related activity could be designed to do this and to improve the sense of belonging and ownership among Fellows (S_005).

The **training programme needs a good governance structure** within the College and within local training environments and should include indicators developed through performance management of training providers. See (S_106) for details of this proposal.

Wide collaboration by the College is recommended, including:

- with other specialty Colleges (S_109);
- with international Anaesthetists training bodies (S_010);
- broadening the trainee base to include non-medically qualified trainees (S_053);
- developing expertise and training modules in Acute Care (run by this College) to be compulsory for all physicians, surgeon, anaesthetists, emergency medicine doctors, trauma specialists in training (S_071).

ANZCA accountability

Two issues are mentioned: financial accountability and educational accountability.

It is reported that the College needs to be accountable for **financial costs to trainees** of ANZCA training and examinations and the processes should be transparent.

Lack of transparency of College fees is a problem generally for junior doctors. It is important that all fees and costs associated with the training program are clearly explained, as this assists junior doctors to budget for their training costs (S_099).

The value of educational accountability is recognised. The view is reported that the College should have an independent arbiter of its decisions due to its position as both the **provider and assessor of education** for Anaesthesia.

Some trainees feel the exam is as difficult as it is, simply because “the College can do what it wants” (S_008).

Appendix 1: Index to the Submissions made

The table provided on the following pages gives a key to the submissions received by the ANZCA Curriculum Review Working Group. The table provides the following information for each submission:

- ID (e.g. S_001)
- Source (i.e. Internal or External)
- Type (i.e. Group or Individual)
- Sub-type (i.e. short label for type/position of group or individual)
- Publication Name (i.e. the full name listed for publication of the submission)

A full copy of submissions received is freely available at:

www.anzca.edu.au/edu/projects/curriculum-review/submissions/received

Disclaimer: All authors have provided permission for the publication of their submission. Submissions have been formatted for consistency. Any views expressed in this document are those of the individual authors, and not the views of the Australian and New Zealand College of Anaesthetists.

Table of Submissions

ID	Source	Type	Sub-Type	Publication Name
S_001	Internal	Group	Committee	ANZCA International Medical Graduate Specialists (IMGS) Committee
S_002	Internal	Group	Committee	ANZCA New Zealand National Committee
S_003	Internal	Group	Committee	ANZCA Quality and Safety Committee and ANZCA Mortality Working Group
S_004	Internal	Group	Committee	ANZCA Regional Committee for South Australia and the Northern Territory
S_005	Internal	Group	Committee	ANZCA Regional Committee for the Australian Capital Territory (ACT)
S_006	Internal	Group	Committee	ANZCA Regional Committee for Victoria
S_007	Internal	Group	Committee	ANZCA Research Committee
S_008	Internal	Group	Committee	ANZCA Trainee Committee
S_009	Internal	Group	Committee	ANZCA Malaysian National Trainee Committee
S_010	Internal	Group	Committee	ANZCA New Zealand National Trainee Committee
S_011	Internal	Group	Committee	ANZCA South Australian and the Northern Territory Regional Trainee Committee
S_012	Internal	Group	Committee	ANZCA Tasmanian Regional Trainee Committee
S_013	Internal	Group	Committee	ANZCA Victorian Regional Trainee Committee
S_014	Internal	Group	Committee	ANZCA Western Australian Regional Trainee Committee

ID	Source	Type	Sub-Type	Publication Name
S_015	Internal	Group	Committee	ANZCA Training Accreditation Committee
S_016	Internal	Group	Committee	ANZCA Training Committee for Singapore
S_017	Internal	Group	Faculty	ANZCA Faculty of Pain Medicine (FPM)
S_018	Internal	Group	Hospital Team	Anaesthetists from the Women's and Children's Hospital, Adelaide
S_019	Internal	Group	Hospital Team	Department of Anaesthesia Westmead Hospital, New South Wales
S_020	Internal	Group	Hospital Team	Department of Anaesthesia, Pain Medicine and Hyperbaric Medicine, Royal Adelaide Hospital
S_021	Internal	Group	Hospital Team	Department of Anaesthesia, Royal Brisbane and Women's Hospital
S_022	Internal	Group	Hospital Team	Monash Anaesthesia Training Scheme (MATS)
S_023	Internal	Group	Special Interest Group	Acute Pain Special Interest Group
S_024	Internal	Group	Special Interest Group	Airway Management Special Interest Group
S_025	Internal	Group	Special Interest Group	Anaesthetists in Management Special Interest Group
S_026	Internal	Group	Special Interest Group	Day Surgery Special Interest Group
S_027	Internal	Group	Special Interest Group	Diving and Hyperbaric Medicine Special Interest Group
S_028	Internal	Group	Special Interest Group	History of Anaesthesia Special Interest Group

ID	Source	Type	Sub-Type	Publication Name
S_029	Internal	Group	Special Interest Group	Obstetric Anaesthesia Special Interest Group
S_030	Internal	Group	Special Interest Group	Regional Anaesthesia Special Interest Group
S_031	Internal	Group	Special Interest Group	Simulation and Skills Training Special Interest Group and the Australian Society for Simulation in Healthcare (ASSH)
S_032	Internal	Group	Supervisory Role	ANZCA Formal Project Officers
S_033	Internal	Group	Supervisory Role	ANZCA Supervisors of Training (Victoria)
S_034	Internal	Individual	Fellow	Anonymous
S_035	Internal	Individual	Fellow	Anonymous
S_036	Internal	Individual	Fellow	Anonymous
S_037	Internal	Individual	Fellow	Austin, David
S_038	Internal	Individual	Fellow	Baker, Barry
S_039	Internal	Individual	Fellow	Bremmer, Michael
S_040	Internal	Individual	Fellow	Calder, Jamie
S_041	Internal	Individual	Fellow	Castanelli, Damian
S_042	Internal	Individual	Fellow	Chandrasekara, Dishan

ID	Source	Type	Sub-Type	Publication Name
S_043	Internal	Individual	Fellow	Chilvers, Colin
S_044	Internal	Individual	Fellow	Eastaugh, Garry
S_045	Internal	Individual	Fellow	Gibbs, Mark
S_046	Internal	Individual	Fellow	Goulding, Genevieve
S_047	Internal	Individual	Fellow	Graham, Jodi
S_048	Internal	Individual	Fellow	Gray, Kim
S_049	Internal	Individual	Fellow	Heffernan, Drew
S_050	Internal	Individual	Fellow	Ho, Kwok
S_051	Internal	Individual	Fellow	Horton, Rick
S_052	Internal	Individual	Fellow	Howe, Peter
S_053	Internal	Individual	Fellow	Keane, Michael
S_054	Internal	Individual	Fellow	Kibblewhite, David
S_055	Internal	Individual	Fellow	Lah, Frank
S_056	Internal	Individual	Fellow	MacIntyre, Pam

ID	Source	Type	Sub-Type	Publication Name
S_057	Internal	Individual	Fellow	McIntosh, Cate
S_058	Internal	Individual	Fellow	Mezzavia, Paul
S_059	Internal	Individual	Fellow	Mitchell, Andrew
S_060	Internal	Individual	Fellow	Mitchell, James
S_061	Internal	Individual	Fellow	Noonan, Craig
S_062	Internal	Individual	Fellow	Paech, Michael
S_063	Internal	Individual	Fellow	Phillips, Garry
S_064	Internal	Individual	Fellow	Potter, Andrew
S_065	Internal	Individual	Fellow	Rathie, Lachlan
S_066	Internal	Individual	Fellow	Royse, Colin
S_067	Internal	Individual	Fellow	Short, Timothy
S_068	Internal	Individual	Fellow	Sleigh, James
S_069	Internal	Individual	Fellow	Stokes, John
S_070	Internal	Individual	Fellow	Sutherland, Joanna

ID	Source	Type	Sub-Type	Publication Name
S_071	Internal	Individual	Fellow	Tan, Patrick
S_072	Internal	Individual	Fellow	Thatcher, Jeneen
S_073	Internal	Individual	Fellow	Wah, Yih-Lin
S_074	Internal	Individual	Fellow	Wilson, Leona
S_075	Internal	Individual	Fellow	Woodforth, Ian
S_076	Internal	Individual	Staff	Biviano, John
S_077	Internal	Individual	Staff	Box, Sandra
S_078	Internal	Individual	Staff	Cook, John
S_079	Internal	Individual	Trainee	Anonymous
S_080	Internal	Individual	Trainee	Anonymous
S_081	Internal	Individual	Trainee	Aras, Daniel
S_082	Internal	Individual	Trainee	Heynes, Mark
S_083	Internal	Individual	Trainee	Nichols, Toby
S_084	Internal	Individual	Trainee	Rosen, Derek

ID	Source	Type	Sub-Type	Publication Name
S_085	Internal	Individual	Trainee	Smith, Scott
S_086	Internal	Individual	Trainee	Walid, Aly
S_087	Internal	Individual	Trainee	Wright, Janette
S_088	External	Group	Academic Department	Department of Anaesthesiology, Faculty of Medical and Health Sciences, University of Auckland
S_089	External	Group	Academic Department	Discipline of Anaesthesiology and Critical Care, School of Medicine, The University of Queensland
S_090	External	Group	Academic Department	School of Medicine and Dentistry, James Cook University
S_091	External	Group	Association - Anaesthesia	Anaesthesia Consultative Group of the Australian Defence Force (ADF)
S_092	External	Group	Association - Anaesthesia	Group of ASA Anaesthesia Clinical Trainees (GASACT)
S_093	External	Group	Association - Anaesthesia	New Zealand Society of Anaesthetists (NZSA)
S_094	External	Group	Association - Anaesthesia	Overseas Trained Specialists Anaesthetists' Network (OTSAN)
S_095	External	Group	Association - Anaesthesia	Society for Paediatric Anaesthesia in New Zealand and Australia (SPANZA)
S_096	External	Group	Association - Anaesthesia	The Australasian Society of Anaesthesia Paramedical Officers (ASAPO)
S_097	External	Group	Association - Anaesthesia	The Australian Resuscitation Council (ARC)
S_098	External	Group	Association - Other Medical	Australian Indigenous Doctors' Association (AIDA)

ID	Source	Type	Sub-Type	Publication Name
S_099	External	Group	Association - Other Medical	Australian Medical Association (AMA)
S_100	External	Group	Association - Other Medical	Australian Medical Students Association (AMSA)
S_101	External	Group	Association - Other Medical	Medical Defence Association (MDA) National
S_102	External	Group	Association - Other Medical	Medical Indemnity Protection Society (MIPS)
S_103	External	Group	Association - Other Medical	New Zealand Council of Midwives (NZCOM)
S_104	External	Group	Association - Other Medical	The Medical Insurance Group Australia (MIGA)
S_105	External	Group	College - Australasia	The Australasian College for Emergency Medicine (ACEM)
S_106	External	Group	College - Australasia	The Royal Australasian College of Physicians (RACP)
S_107	External	Group	College - Australasia	The Royal Australasian College of Surgeons (RACS)
S_108	External	Group	College - Australasia	The Royal Australian and New Zealand College of Ophthalmologists (RANZCO)
S_109	External	Group	College - Australasia	The Royal College of Pathologists of Australasia (RCPA)
S_110	External	Group	College - International	European Society of Anaesthesiology (ESA)
S_111	External	Group	EMAC Provider	New Zealand National Patient Simulation Training Centre
S_112	External	Group	Government Body	Accident Compensation Corporation (ACC)

ID	Source	Type	Sub-Type	Publication Name
S_113	External	Group	Government Body	Medical Training Board (MTB) of the New Zealand Ministry of Health (MoH)
S_114	External	Group	Government Body	Medicare Australia
S_115	External	Group	Government Body	Chief Medical Officer and Mental Health and Workforce Division (MHWD), Department of Health and Aging (DoHA)
S_116	External	Group	Government Body	Therapeutic Goods Administration (TGA)
S_117	External	Group	Government Body	Victorian Hospital Acquired Infection Surveillance System (VICNISS) Coordinating Centre
S_118	External	Group	International Experts	Scheele, Fedde and Teunissen, Pim
S_119	External	Group	Medical Regulatory Body	Department of Anaesthesia, Hutt Valley District Health Board
S_120	External	Group	Medical Regulatory Body	Medical Board of South Australia (MBSA)
S_121	External	Group	Medical Regulatory Body	Medical Practitioners' Board of Victoria (MPBV)
S_122	External	Group	Medical Regulatory Body	South Australian Department of Health (SA Health)
S_123	External	Group	Medical Regulatory Body	Tasmanian Department of Health and Human Services (DHHS)
S_124	External	Group	Medical Regulatory Body	Western Australian Department of Health (WA Health)
S_125	External	Group	Pre-vocational Body	Confederation of Postgraduate Medical Education Councils (CPMEC)
S_126	External	Group	Pre-vocational Body	New South Wales Institute of Medical Education and Training (NSW IMET)

ID	Source	Type	Sub-Type	Publication Name
S_127	External	Group	Pre-vocational Body	Professional Development Programme for Registrars and Australian Curriculum Framework for Junior Doctors (ACFJD) of the Confederation of Postgraduate Medical Education Councils (CPMEC)
S_128	External	Individual	International College Member	Gopalan, Dean (Convenor, Final Examination, College of Anaesthetists of South Africa)
S_129	External	Individual	International College Member	Joubert, Ivan (Convenor, Part One Examination, College of Anaesthetists of South Africa)
S_130	External	Individual	Researcher (Medical Ed.)	Jolly, Brian (Director, Centre for Medical and Health Sciences Education, Monash University)
S_131	External	Individual	Researcher (Medical Ed.)	Stolker, Robert Jan (Head of Anaesthesiology, Erasmus Medical Centre, Rotterdam, The Netherlands)
S_132	External	Individual	Nursing College Member	Lohan, Jennifer