

Capacity to train and the intensive care workforce

The Board of the College of Intensive Care Medicine
of Australia and New Zealand

In a recent issue of *Critical Care and Resuscitation*, the results of surveys undertaken by the College of Intensive Care Medicine of Australia and New Zealand (CICM) were published.¹ The article sought to better delineate the capacity for, and the limitations to, the training of intensive care specialists in Australia and New Zealand. The purpose of this Editorial is to provide some context to the problem of “capacity to train” and to provide an outline of the response of the CICM Board to this and related issues.

Over the past decades, there have been many changes in intensive care practice which the intensive care community has successfully navigated. These include changes in the organisation and structure of intensive care units (ICUs), the scope and conditions of work for specialists and trainees, and the training, assessment and certification of intensive care specialists. As a consequence, there has been an increase in the number of intensive care specialists and a proportionately greater increase in the number of trainees. While there has been some increase in the number of ICUs accredited for training and in the total number of critically ill patients managed in accredited units, these may not have kept pace with the increase in trainee numbers. This situation is the background to the concern over capacity to train that triggered the surveys.

One of the concerning findings in the surveys is the reported view held by trainees and unit directors that the College’s training and credentialing program may not always equip the newly trained specialists with the comprehensive skill set required for safe, independent consultant practice.¹ Simply staffing accredited ICUs with trainees may not provide the depth and breadth of experience, teaching, supervision, mentoring and assessment required to produce a fully trained specialist. The surveys also suggest that there may be some deficiency in trainees gaining supervised guidance in the management of some subspecialty patients and of patients with high levels of illness severity. Limitations were also reported for access to some procedures, specific training modules and the essential, CICM-required, non-ICU rotations. These findings would seem to confirm the concern that the College program may now be spread too thinly over too many trainees and may be reaching saturation.

The question of capacity to train intersects with a related but independent challenge: the intensive care workforce.

The workforce summit convened and facilitated by CICM and the Australian and New Zealand Intensive Care Society (ANZICS) in 2014 was undertaken following some widely promulgated concerns of a burgeoning surfeit of intensive care specialists in Australia.² The key finding was a high proportion of trainees relative to consultants. A fellow to trainee ratio of 2.25 was reported for intensive care medicine compared with a corresponding ratio of 5 for adult medicine, for instance. This ratio would suggest that, for a 6-year training program, the College would graduate as many specialists as there are current fellows every 14 years for intensive care medicine, compared with every 30 years for adult medicine. Allowing for retirement, for example, with an assumed average career span of 30 years, the number of intensive care positions that would be needed to employ all new graduates would double in 30 years. The alternative outcome — systematic underemployment — would be professionally unsatisfactory and may threaten professional skills maintenance. For the same assumptions, adult medicine would be in balance over 30 years.

However, the reality of an excess of trainees has not been universally accepted. The 2013 new Fellows survey³ did not raise alarms about the employment prospects of new graduates. Further, it is possible that the need for intensive care will continue to increase with population growth and ageing, with increasing expectations of hospital care including outreach and with expansion into rural and regional settings. This greater demand for intensive care, together with other possible future initiatives such as specialist shift work and more equitable distribution of private hospital practice, may sufficiently increase the requisite specialist pool to accommodate the potential current excess of graduating specialists.

Workforce issues in New Zealand are quite different. The penetration of CICM Fellows into regional settings has been slower. Non-CICM specialists are often appointed to work in intensive care as well as their primary specialty in spite of sometimes only very limited training in intensive care medicine and no specific certification or vocational registration. As a result, up to 30% of patients in New Zealand ICUs are not managed by specifically trained intensive care specialists (ANZICS Centre for Outcome and Resource Evaluation; unpublished data). The longitudinal, multiday model of rostering of intensive care specialists

common in Australia is not considered practical in much of New Zealand due (in part) to the paucity of senior registrars and the demanding clinical workload in a more resource-constrained environment. Therefore, a different approach and different solutions are likely to be required to deal with workforce issues in New Zealand.

The issues of capacity to train and workforce considerations converge around any consideration of limiting the number of intensive care training positions.

In both Australia and New Zealand, competition laws place some limit on the ability of medical colleges to regulate training positions, except on the grounds of trainee suitability and capacity to train. A restrictive trainee selection process can only be legally sanctioned if it is based around characteristics considered essential for successful completion of the training program or on a limited capacity to offer some or all of the components of training, assessment and credentialling that are considered essential. The College could expect a legal challenge if access to training was restricted purely on the basis of projected workforce needs. However, there is an emerging recognition that, at least in Australia, training positions are currently determined more by service requirements than by community needs. At the Rural Medical Specialist Training Summit in 2018,⁴ intensive care was identified as a specialty with excessive trainee numbers. At that meeting and subsequently, the Commonwealth Chief Medical Officer (CMO) forecasted an initiative to better align training positions with workforce requirements. The CMO has also suggested that the Australian Competition and Consumer Commission may be willing to apply a public interest lens to restrictive training. This might enable some limitation of trainee selection without triggering anticompetitive sanction. In New Zealand, the intensive care workforce and service planning have not been systematically reviewed. However in submissions to the Ministry of Health, both the National Committee of the College and ANZICS have highlighted perceived deficiencies.

The College has invested time and resources in developing a trainee selection process over several years. To date, this has not been especially restrictive, and has sought to identify trainees with characteristics likely to ensure successful completion of the training program. Requirements for general medical registration, mandated foundation training experience and the removal of some exemptions from the primary examination were introduced to help achieve this end. Structured applications and mandatory referees' reports have been in place but have been of inconsistent utility. These and other initiatives such as situational judgement testing remain under consideration and development. A robust selection process will be required if any significant

limitation on trainee numbers ever becomes both desirable and feasible.

The College currently accredits units rather than training posts. There is no restriction, apart from unit staffing requirements and budgets, which limits the number of trainees who may be employed in an accredited ICU. Overall, only around 35% of junior medical officer (JMO) or house staff positions in accredited ICUs are occupied by CICM trainees.⁶ Some accredited units have rarely or even never employed a registered CICM trainee. As well as CICM trainees, service workforce needs are met from several sources including pre-vocational trainees, trainees from other specialties, career medical officers and overseas medical graduates on temporary contracts who are not seeking local specialist certification. ICUs themselves currently have the ability to restrict training positions simply by balancing their JMO recruitment among these various options.

Capacity to train embraces several domains.⁵ One such domain is formal and work-based trainee assessment. The College has recently encountered problems with its capacity to formally examine candidates, as the number of candidates presenting for examinations has challenged the planned resources and facility capacity. Also, individual ICUs may experience difficulty in providing the requisite resources for trainee supervision and for completion of in-training and work-based assessments and observed clinical encounters. Although some expansion of this ICU-based capacity may be feasible, this is not unlimited, and it may become necessary to limit trainee positions based on the capacity to undertake the various elements of trainee assessment.

Because of the considerable number of non-CICM trainee JMOs working in accredited ICUs, it is probably not feasible to limit training posts based on overall clinical exposure. Meeting service requirements by replacing trainees with non-CICM-trainee JMOs would not in itself increase the overall clinical exposure of the remaining CICM trainees. But given the concerns expressed in the College surveys, some means for ensuring individual trainee exposure to a sufficient range of seriously ill and subspecialty patients is surely essential. The College hospital accreditation process effectively oversees the overall, unit-based clinical exposure including case numbers, casemix and bedside supervision and teaching. But for individual trainees, more detail will likely be required.

Ensuring procedural competency especially for less common procedures may directly challenge the capacity to train and thus restrict trainee numbers. For dilatational tracheostomy, for instance, the number of posts for senior trainees could be linked to the total tracheostomy census in that ICU. Clearly, some allowance would be required for the number of procedures needed to maintain expertise

in the specialist establishment and for the minimum number of successful procedures required to ensure trainee competency. Similar metrics could perhaps be applied for other limited procedures.

Training posts could also potentially be limited to a multiple of the number of medicine and anaesthesia posts available to trainees in that unit for the compulsory, non-ICU components of the CICM training program. The surveys suggest these may currently constitute a bottleneck.¹

To progress these issues, the College will continue to develop its trainee selection processes to ensure that they are robust and defensible if they ever do become restrictive. In addition, the College Examination Committees have been tasked with considering possible solutions to the potential limitation of the capacity to examine trainees. It is, of course, a requirement that potential solutions do not result in any degradation of the integrity of the examination processes.

The College also plans to attempt to define the ideal or essential training post. In light of this, the College will review the hospital accreditation process in the hope of better aligning accreditation with specific training requirements rather than general clinical and training attributes. This may lead to a shift in the balance from accreditation of units to that of training posts, which would likely be a gradual, iterative process and would take some years to enact. Establishment of direct links between training posts and the availability of essential components of training and experience might be more rapidly achievable. Given the recent survey results, this could be currently justified for some procedures, some specific aspects of clinical experience and for access to essential non-intensive care clinical rotations.

Finally, the process of trainee assessment may need to be reviewed. Some means for ensuring the appropriate clinical and procedural experience of graduating trainees would seem to be an essential addition to the current assessments. A summative portfolio process could ensure the required range and depth of clinical and procedural experience. This could be achieved with an extension of the recently introduced logbook.

Regional training programs have been established at unit, city and state levels and can usefully help trainees navigate the various components of training. To ensure equitable trainee distribution, structured coordination of training programs may become essential if any restriction on trainee numbers is introduced. In general, central allocation of trainees is beneficial when large numbers of applicants seek a smaller number of positions. For intensive care medicine on the other hand, posts available to trainees

have to date exceeded total trainee applicants, resulting in healthy competition among units for trainee employment.

The College has undertaken a new survey of recent graduates to ascertain the current employment realities for this cohort and to again assess perceptions of training deficiencies. We will also work closely with the Australian Medical Workforce Reform Advisory Committee with Health Workforce New Zealand to update workforce modelling and projections and to progress the workforce strategy proposed by the Australian CMO. While not directly relevant to the capacity to train issue, this might provide more insight into links between training and subsequent specialist employment. It might also provide a means for more appropriate alignment between training positions and workforce requirements.

The considerations raised here are important to the future of our specialty in Australia and New Zealand. Other relevant considerations include the need for rural and regional intensive care specialists, which raise issues around both training sites and dual training. The College has recently taken on responsibility for the intensive care component of the Australian Specialist Training Program and will continue to use this initiative to promote training in intensive care in private hospitals and in rural and regional settings. In addition, facilitation of dual training, especially with the Australian and New Zealand College of Anaesthetists, will be further explored. There is growing concern about an excess of medical graduates in Australia that will present potential challenges for training programs across all specialties. To address this concern, the College will continue to engage productively with other Colleges and relevant agencies.

The CICM is pursuing several strategies to deal with these two complex issues. In the meantime, we continue to facilitate the entry of enthusiastic and highly capable women and men into a very demanding training program that may not be fully meeting their training needs and which may only offer limited future employment. At some stage, the College may need to consider providing a disclaimer to training program applicants. Such a disclaimer might include the possibility that trainees may not be able to access all of the components of the training program, including the examination at a time of their choice, and may thus not be able to complete the entire program within the minimum advertised time frame. It also seems increasingly apparent that College Fellowship may not provide any guarantee of future full-time employment. It is essential that the College remains at the forefront of all aspects of training and workforce to protect the interests of the intensive care community and of trainees in particular.

EDITORIALS

Competing interests

None declared.

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