

Toward a sustainable intensive care training program

Yasmine Ali Abdelhamid, Mary G White and Adam M Deane

In this issue Bevan and colleagues outline the recent changes to the College of Intensive Care Medicine (CICM) training program.¹ The motives that underlie the evolution of the CICM training program are admirable and the overwhelming objective — to produce well trained, skilled and competent junior specialists able to provide consistent high-quality care for critically ill patients — is accepted by most Fellows as a worthy goal. For a training program to survive and grow, however, it must not only provide the high quality of training described, but it must also be attractive to trainees, thereby ensuring its sustainability.

Compared with the historical approach of trainees undertaking training and acquiring considerable experience in anaesthesia and/or internal medicine before their training in intensive care medicine, relatively inexperienced doctors (postgraduate year 2) can now start training and learn the skills required to work in this unique environment. Although the skills learned in CICM training are relevant to other areas of medicine, such as providing care for acutely ill or postoperative patients admitted to general wards, CICM training logically focuses on working within an intensive care unit where most of a Fellow's work is ultimately conducted. However, intensive care medicine can only be practised in an ICU, and increases in bed capacity and/or opening of new ICUs are dependent on government funding rather than intensivist availability. Thus, if there are newly trained intensivists beyond the number required, this will lead to either underemployed or unemployed young CICM Fellows.² The current exponential trajectory of Fellow numbers is clearly not sustainable and there are already intensivists who have recently completed training and remain underemployed or unemployed.³ A truly sustainable training program must, of necessity, attempt to match numbers of trainees with likely availability of specialist positions.

Given the legitimate concerns about the sustainability of the current free market approach to ICU training, it is reasonable to question why we, as a group of clinicians, have not given and do not give due consideration to workforce planning and introducing (at the very least) preliminary measures to protect those in the training program, as well as the sustainability of the training program itself.

Initially, tensions between local (each ICU needing enough trainees to support the necessary services) and binational issues (needing a sustainable training program) must be reconciled. The recent increase in bed numbers, combined with the need for safer working hours, and demands to provide ever more care outside the ICU, create the disproportionate need for more junior medical staff, in excess of the need for specialist intensivists. However, at the same time, these changes have the potential to reduce the quantity of time each trainee spends learning the craft of

intensive care medicine. Because of the need for large numbers of junior medical staff, it may be in the interests of some to advocate for an unregulated market and to justify such an approach under a free market philosophy. However, if most Fellows believe that young doctors who devote a significant number of years to completing a structured and rigorous training program deserve to have a reasonable prospect of employment in their specialty then we must, as a group, begin the dialogue about how to ensure the training program is sustainable.

If we begin this dialogue, the obvious next question, particularly in Australia, is whether any attempt by a college to determine trainee numbers is legal?

The objective of the Commonwealth Competition and Consumer Act (*Competition and Consumer Act 2010* [Cwlth]) (formerly known as the Trade Practices Act), is to enhance the welfare of all Australians by promoting fair trading and competition.⁴ The Australian Competition and Consumer Commission (ACCC) is an independent Commonwealth statutory authority whose role is to enforce the Act for the benefit of the population.⁴ However, the ACCC can also grant immunity from legal action even when the actions of business, corporations, or colleges may be perceived to reduce competition. Specialist medical colleges can seek immunity by lodging an "authorisation" or "notification". In 2000, such an authorisation was granted to the Royal Australasian College of Surgeons. As stated in the ACCC documents:

... generally speaking, immunity will be granted if the public benefit of proposed conduct outweighs associated detriments including those resulting from any lessening of competition.⁴

We believe that the benefits to the consumer of a sustainable ICU training program demonstrably outweigh any detriment.

In general, the benefits to the consumer of an excess of qualified underemployed or unemployed specialists is that the increased competition should reduce cost and/or improve access to medical care. However, all ICU care in Australia is provided in public and private hospitals where the number of available beds is determined by central (government and/or hospital) funding and not by the number of intensivists ready to work. Intensivists working in public hospitals are employed and remunerated according to award rates equal to other staff physicians. It is also our understanding that the overwhelming majority of intensivists working in private hospitals enter into "no-gap" arrangements, so patients are not out of pocket. While intensive care is a specialty that has only a small component of private practice work available, and the usual approach of no-gap billing would not be reflective of standard

practices of many other specialists, it means that having a greater number of intensivists will not reduce community costs in public or private hospitals. Moreover, an excess of intensivists may well encourage the development of expensive models that increase staff numbers, such as 24-hour consultant presence and “subspecialised” ICU, that do not improve outcomes.⁵⁻⁸ Accordingly, if a sustainable training program is implemented, paradoxically, the cost to the consumer is likely to be less.

It has been suggested that an unregulated market will improve access to intensivists, because ICUs can be staffed in smaller non-metropolitan settings.⁹ Opening ICUs in smaller non-metropolitan centres may be desirable at first glance (although, as described above, this is determined by government funding), but this strategy increases expenditure and may not improve outcomes for individual patients. International studies suggest that mortality is greater in lower volume ICUs (<300 ventilated patients per year) when compared with larger volume ICUs,^{10,11} which would support the current practice of transferring patients from smaller to larger regional or metropolitan hospitals for ongoing ICU care.

Medical specialist shortages have been identified in several key areas and having an oversupply in one area (intensive care medicine) will exacerbate shortages in other areas. This is not in the best interests of the community. We also believe that a sustainable training program will improve the standards of ICU training and, ultimately, the care provided to patients. Currently, the eligibility criteria for registration with CICM are parsimonious, particularly when compared with the standards required by many of the other colleges. Having fewer trainees would demand that those aspiring to train in intensive care met standards similar to those of other colleges before registration and more stringent entry criteria may be justified, as they would select young doctors with a true passion for the craft. Not only would trainees have greater experience and be better prepared before they start training, which could only ultimately benefit patients, but, with potentially lower numbers, statewide programs of lectures and seminars and/or mentorship would also become more sustainable. Moreover, it is, at least anecdotally, problematic for trainees to arrange quality anaesthesia and medicine terms, but with a finite number of trainees these positions could be developed to maximise learning and experience. A more radical option would be to select trainees into state-based positions, and then give the trainees the freedom to work at the hospital of their choice. This would encourage competition between ICUs as each strives to develop the best possible training programs to attract this talent. It is difficult to envisage how this would disadvantage consumers.

In summary, while it could be perceived that the status quo ensures that it is easier to employ the large numbers of junior medical staff required to staff an ICU (and this may well motivate some people to support the status quo), we believe that a system that trains an excessive number of intensivists is a bad one. We suggest that it should be a

priority to explore obtaining immunity from the ACCC so that the current work done to create a high-quality training program is ultimately sustainable. We believe that the ACCC would be receptive to any approach, as there is substantial benefit to the community and minimal detriment in having a sustainable ICU training program.

Competing interests

None declared.

Author details

Yasmine Ali Abdelhamid, Clinical Fellow¹

Mary G White, Intensivist,² and Associate Professor³

Adam M Deane, Intensivist,² and Associate Professor³

1 Department of Critical Care Medicine, Sunnybrook Health Sciences Centre, Toronto, Canada.

2 Department of Critical Care Services, Royal Adelaide Hospital, Adelaide, SA, Australia.

3 Discipline of Acute Care Medicine, University of Adelaide, Adelaide, SA, Australia.

Correspondence: adam.deane@adelaide.edu.au

References

- 1 Bevan R, Freebairn R, Lee R. College of Intensive Care Medicine: changes to intensive care medicine training. *Crit Care Resusc* 2014; 16: 291-3.
- 2 Deane AM. Intensivists under threat: who's in charge here? *Crit Care Resusc* 2014; 16: 138-9.
- 3 Venkatesh B, Freebairn R. Assessment of the distribution and professional roles of the new Fellows of the College of Intensive Care Medicine of Australia and New Zealand. *Crit Care Resusc* 2013; 15: 327-8.
- 4 Australian Competition and Consumer Commission, and Australian Health Workforce Officials' Committee. Report to Australian Health Ministers: review of Australian specialist medical colleges. Canberra: ACCC, July 2005. <https://www.hwa.gov.au/sites/uploads/Review%20of%20Australian%20specialist%20medical%20colleges.pdf> (accessed Oct 2014).
- 5 Lott JP, Iwashyna TJ, Christie JD, et al. Critical illness outcomes in specialty versus general intensive care units. *Am J Respir Crit Care Med* 2009; 179: 676-83.
- 6 Wallace DJ, Angus DC, Barnato AE, et al. Nighttime intensivist staffing and mortality among critically ill patients. *N Engl J Med* 2012; 366: 2093-101.
- 7 Deane AM, White MG. Should hospitals have intensivist consultants in-house 24 hours a day? — No. *Med J Aust* 2013; 198: 309.
- 8 Kerlin MP, Small DS, Cooney E, et al. A randomized trial of nighttime physician staffing in an intensive care unit. *N Engl J Med* 2013; 368: 2201-9.
- 9 Freebairn R. Too many intensive care physicians? In: College of Intensive Care Medicine of Australia and New Zealand e-news. Melbourne: CICM, February 2013. http://www.cicm.org.au/enews/enews_template_20_February_2013.html (accessed Oct 2014).
- 10 Kahn JM, Goss CH, Heagerty PJ, et al. Hospital volume and the outcomes of mechanical ventilation. *N Engl J Med* 2006; 355: 41-50.
- 11 Kahn JM, Ten Have TR, Iwashyna TJ. The relationship between hospital volume and mortality in mechanical ventilation: an instrumental variable analysis. *Health Serv Res* 2009; 44: 862-79. □