National standards in medical education

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Since 1999, the number of Australian medical schools has doubled. While this has brought about diversity, it has arguably also created a worrying lack of standardisation in the skills of graduates. National curricula are currently a hot topic, with the development of a standardised Australian curriculum for Kindergarten to Year 12 well underway. Is it time to rekindle a similar debate within Australia's medical education sector?

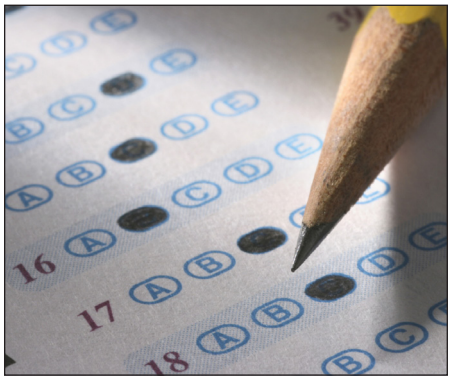
Presently, the only force acting to maintain a degree of standardisation between Australian medical curricula is the Australian Medical Council (AMC) and its accreditation processes. The AMC accreditation standards guide, while laudable, does not direct the specific structure or content of curricula, leaving the door open for the veritable potpourri of programs that we now have across the country. For example, the guideline for curriculum content of the basic biomedical sciences, which occupies one line of the document, does not even mention the names of the various biomedical disciplines: "[t]he course provides a comprehensive coverage of … basic biomedical sciences, sufficient to underpin clinical studies." [1] Either the AMC is not prepared to put more specific guidelines in the public domain, or little guidance exists to direct curriculum development. The open-ended regulatory framework has seemingly acted for more than a decade to feed a process of medical schools constantly reinventing the wheel with 'revolutionary' medical programs.

Of all the medical science disciplines, the teaching of anatomy has been the most criticised in recent times. Anatomy provides a case study in teaching disparities between universities. In a recent national survey, striking differences were demonstrated between medical schools in several areas, including the amount of hours dedicated to formalised anatomy teaching, the delivery of lessons, the use of cadavers, and the manner of assessment of anatomy knowledge. [2] For example, eleven of the nineteen medical schools surveyed have no specific requirement that student demonstrate sufficient anatomical knowledge at examination. Most medical schools pool anatomy questions with those of other disciplines, and calculate an overall passing grade. Thus, a student could be considered competent in basic clinical sciences without passing anatomy. These and other findings have prompted recent calls for a national curriculum for anatomy. [3] However, despite being extremely topical of late, anatomy is but one example of the heterogeneity in teaching across Australia. It would be difficult to make a strong case for having a standard curriculum for one subject and not others.

The suggestion of an Australian medical curriculum appears to be slowly gaining some currency. In 2010, the Dean of the University of Queensland School of Medicine, David Wilkinson, suggested the idea in light of worrying revelations about junior doctor competencies. [4] Others have gone further, suggesting that course content should be shared between medical schools, with increasing use of online methods of instruction. [5] However, the time and money already invested by individual schools in developing new programs has created an enormous amount of inertia and pride that will be difficult to overcome.

An alternative to a national curriculum is a national examination. In fact, such an examination would go a step further, by setting a benchmark for academic performance and ensuring that it is achieved by every graduate. It would essentially act as a de facto core curriculum, encouraging universities to prepare their students in the stated competencies of the examination. The Australian Medical Students' Association (AMSA) has a policy opposed to the implementation of such a barrier exam, arguing primarily that it would reduce diversity of curricula, and that of resulting student skills and knowledge [6]. The AMSA policy rests on two implicit assumptions: that diversity is good and homogeneity is bad, and that a national examination would lead to an excessive amount of homogeneity. Both of these are very much open to question. We need to find a better balance between diversity and homogeneity, as it would seem that the pendulum may have swung too far in favour of the former. There is no reason to think that such an examination would completely remove diversity of courses. Rather, it could select core areas of study or disciplines which lend themselves to standardisation, and examine those. More so than a strict national curriculum, it would leave universities with a lot of flexibility regarding their methods of teaching, additional content, and separate internal examinations.

Currently, the AMC assesses overseas-trained



doctors with a set of examinations that "are set at the level of attainment of medical knowledge, clinical skills and attitudes required of newly qualified graduates of Australian medical schools who are about to begin intern training." [7] It seems somewhat unusual that the newly qualified local graduates whose skills supposedly provide the benchmark of this examination are not themselves made to sit it. The AMC examinations comprise of a seven-hour multiple choice examination and a multi-station clinical examination. An expanded version of these could form the basis of a standardised national examination system for medical students. This would take the responsibility for assessment oversight away from individual universities, and in the process, provide an important quality control measure.

The United States Medical Licensing Examination (USMLE) is a model of a national examination system, well known for its rigour and difficulty. It is divided into three distinct steps, each taken as different stages in one's training. We should look to the USMLE as an example of how a standardised system can actually be effectively implemented. Furthermore, the nature of medical colleges in the United States (US) is a prime example of how a national examination does not have to spell the death of diversity. In the US, there is no equivalent accreditation body to the AMC, but the USMLE system ensures an excellent benchmark standard for graduates.

Such a standardised system could provide a means of comparing students from across the country. Currently, internship allocations are conducted on a state-by-state basis, with very different systems in different parts of the country. For example, in Victoria, the process is merit-based, while in New South Wales, it is a simple automated preferential system. Having a merit-based system is fraught by

the difficulty in comparing students from different universities, each with completely different examinations and marking systems. A national examination could provide a sound basis for comparing all graduates against each other nationally. From an administrative point of view, this would line up well with the advent of compulsory registration with the Medical Board of Australia, which began on the 1st of July 2010. However, whether a competitive allocation system is of itself desirable is another issue. Certainly, it would render the final year of medical school much more stressful for many, and may create stark disparities between hospitals, as the students with the poorest performances would inevitably end up at the least popular hospitals. On the other hand, nothing drives quality more than competition.

One must also keep in mind that a higher degree of standardisation does not necessarily equate with higher standards. There is no use in having a national curriculum or examination if the bar is set too low. The stakes involved in devising a system and ensuring its rigour would be enormous, with the danger that such a project may be hijacked by politics and vested interests. There would also need to be measures to ensure that a national system did not become overly cumbersome and resistant to change. Effective avenues for ongoing feedback and adaptation to changing healthcare needs would be critical.

Neither a national curriculum nor national examination should be rushed into. The intention of the authors is simply to stimulate a rigorous student discussion about this issue, and we hope to see the Australian Medical Student Journal facilitate this going into the future. Wheels are beginning to turn in this area, and it is important that we as students are not shut out of the debate, or potentially, the design.

Acknowledgement

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Telemedicine: The possibilities, practicalities and pitfalls

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The internet has woven itself into the fabric of society, by offering a plethora of services which have evolved from luxuries to necessities.

Telemedicine - the use of the internet to transmit information for diagnosis and management - has garnered recent attention because of the Federal Government's promise to provide AU$392million for its development, and the proposed national broadband network which may increase the efficiency of telemedical services. [1,2] Telemedicine, endorsed by the Australian Medical Association, [3] has a number of applications; however, the most highly publicised of these is the concept of online interactive consultations with a specialist practitioner in real-time, potentially using a Skype™-like platform.

In the coming years, telemedicine will likely play a significant role in our careers and as such, we must have an understanding of both its benefits and limitations. Despite the obvious potential of telemedicine, several questions remain in the minds of the public, doctors and also medical students. The first is: do we really require telemedicine? The costs are significant, but so is the need for the 12% of Australia's population inhabiting outer regional and remote locales - data travels significantly faster over hundreds of kilometres than patients and their families. For example, geriatric patients even in the relatively large Queensland town of Rockhampton may need to travel over 600 kilometres to their nearest geriatrician. [4] For frail elderly patients, this is hardly practical. To help address this, the University of Queensland's Centre for Online Health currently provides approximately 2,200 inpatient and outpatient consultations annually, primarily for geriatric and paediatric patients. A designated outpatient clinic exists at the Royal Children's Hospital, Brisbane, and the transmission of video, radiological images, laboratory data and medical records allow distant consultants to conduct 'video ward rounds' for their inpatients. [4,5]

Nonetheless, even if there is a need for telemedicine, is it effective? Can doctors really diagnose and treat patients they are not in the physical presence of? Although telemedicine has been studied in several ways, two particular studies investigated these questions. A Canadian randomised controlled trial found that telepsychiatry and face-to-face psychiatry produced equivalent clinical outcomes [n = 495]. Further, when comparing the travel and accommodation costs of patients versus the cost of videoconferencing technology, the authors found the costs of the latter to be 10% cheaper. [6] Similarly, a Scottish study which compared 44 outpatient diagnoses and management plans made by a neurologist in a face-to-face consultation and

one in a video consultation found there was complete agreement. [7] These data suggest telemedicine can be just as effective, and less costly, as conventional face-to-face medicine in specialist outpatient scenarios.

The main suggested purpose of telemedicine is to manage chronic conditions, which comprise the majority of the burden of disease in Australia. Telemedicine, however, is a far more versatile and powerful tool, and will likely play a role in our careers, no matter which medical or surgical fields we choose to enter. The reach of telemedicine even extends into the domain of the Emergency Department (ED). For example, the Victorian Stroke Telemedicine project allows neurologists in