

"Futuristic medical education"

Louise Young and David Wilkinson

Innovation, fitness to practise and medical education as a discipline were the themes of a recent colloquium

Medical education is currently under the spotlight both in Australia and internationally. It is, for example, influencing and being influenced by major global initiatives such as the International Campaign to Revitalise Academic Medicine (a collaboration of medical academics seeking to secure a vibrant future for academic medicine) and the recent Productivity Commission's report on Australia's health workforce, which highlighted the need for more responsive education and training.^{1,2} New medical schools are being established, with some seeking to develop innovative programs and access perceived niche markets.³ Some of these issues were debated at a conference in March 2005 hosted by the Committee of Deans of Australian Medical Schools.⁴

It was against this background that the School of Medicine at the University of Queensland hosted the first Australian National Medical Education Colloquium in August 2005. Innovation, fitness to practise and medical education as a discipline were the themes of the 2-day Colloquium. It brought together over 120 participants from Australian medical schools, who were challenged to consider future directions for medical education. Plenary sessions were delivered by Ron Harden (Director, International Virtual Medical School [IVIMEDS], and former Professor of Medical Education, and Director, Centre for Medical Education, University of Dundee); Thomas Aretz (Director of Education, Harvard Macy Institute, Harvard Medical School); Marilyn Walton (Associate Professor of Ethical Practice, University of Sydney); and David Prideaux (Professor of Medical Education, Flinders and Griffith Universities). Priority directions for medical education identified by plenary speakers were student-centred learning, adaptive curriculum, teaching innovations, systems approach, academic medicine, fitness to practise, and medical education research.

Student-centred learning

Harden highlighted the importance of student-centred learning as being pivotal to thinking about learning and teaching. He suggested our medical education programs need to see the student at the centre of the learning process, with a futuristic option that includes learning becoming personalised through "blended learning" — a mix of e-learning and face-to-face study — and truly individualised programs. IVIMEDS, a worldwide partnership of leading medical schools, is an example of an organisation working to develop e-learning opportunities in medical education. IVIMEDS includes a bank of learning objects (eg, x-ray images,

decision-making scenarios, videos), curriculum maps, virtual patients, and guided learning that is responsive to the learning needs of individual students and is an example of what is called an "adaptive curriculum".

Adaptive curriculum

An adaptive curriculum modifies and personalises learning by designing teaching and learning experiences geared to the specific needs of individual students. As Harden explained, the concepts of "just for me" learning and "just in time" learning are accommodated by technology — when the learner is ready, the teacher will appear via technology. Programs such as IVIMEDS provide the framework and resources for this type of learning to be further developed.

Teaching innovations

Innovations in medical education extend to curriculum, technology, assessment and professionalism. The curriculum model of the future should be student-centred, problem- or task-based, integrated, interdisciplinary, interprofessional, community-based and elective-driven, with core and student-selected components. The goal is systematic, outcome-based education.⁵ But how is this ideal to be achieved? And how do we move beyond a list of motherhood statements?

Curricula are already becoming blended, using different technologies that allow students to access learning opportunities for what they need to know and when they are ready to learn. Technology will continue to be an important aspect of future medical education, with simulation a key feature.⁶

To keep pace with curriculum changes, assessment must move beyond multiple-choice tests of knowledge and multistation tests of "pretend" clinical skills using simulated patients. There is increasingly a need to assess aspects of professional behaviour and competence within the health system. Portfolio assessment may be one way to do some of this, but we have a long way to go before we can be sure we are graduating truly competent doctors with the necessary professional behaviour.

Systems approach

Aretz stressed the need for medical education programs to prepare graduates who are responsive to both the needs of the health system in which they will function and the needs of the patients they will treat. Currently, medical students spend most time in teaching hospitals, but they will eventually work in the community, where most patients present and are treated. Aretz challenged delegates to prepare interns who are immediately ready for the workplace and have the prerequisite skills and knowledge required by the health system and the consumers of health services. The future of medical education was presented from global, system, institutional and individual perspectives.

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Global perspective

With the mobility of the health professional workforce, changes — including international accreditation, increased competition between medical schools, and increased cybermedicine — seem to be the way of the future. Global alliances for teaching resources and assessment are efficient, as is developing new assessment technologies, including consortia for practical clinical examinations, simulators and web-based clinical evaluation systems. There is a need to develop a global perspective such that equivalent standards across countries and medical schools are defined, including mechanisms for global standards, accreditation and curricula.

System perspective

Medical schools increasingly require their students to have an understanding of the evolving health industry structure from all levels, including self-care, nursing, general practice and specialist areas. The system works through partnerships between all components, such as academic institutions, biomedical research centres, the insurance industry, government, regulators and health care providers. Users of the medical school product, including health systems and patients, require and demand input into how medical education works.

Institutional perspective

Medical school programs will probably increasingly seek differentiation. Some will focus on interprofessional education (in which students in various health professions, such as medicine, nursing, and allied health, learn together); others will be for profit; and some will develop niche markets (eg, providing accelerated pathways to a particular speciality). A key challenge for medical programs is appropriate reflection of the health system they serve so that medical training mirrors actual health care delivery patterns and recognises non-traditional training sites. Faculty development plays an important part. Multidisciplinary teaching teams can be developed so that centres and institutes, rather than traditional medical disciplines, are the organisational framework for creating integrated curricula that cross traditional departmental lines.

Individual perspective

Medical schools should be educating for capability, so that individual learning tested once is insufficient and competence requires repeated demonstration. The ability of individuals to adapt to change, generate new knowledge and improve their performance and professionalism is as important as specific knowledge and skills.

Academic medicine

Medical schools and health systems need to recapture the educational mission by protecting time for teaching and faculty development. Academic medicine must be fully engaged with its real stakeholders — the health system and the patient. The International Campaign to Revitalise Academic Medicine has presented a range of provocative possibilities.⁷

Fitness to practise

According to Walton, fitness to practise is an issue with which all medical schools are currently grappling. There is still debate about what it really means, what its components are, what we are currently doing well, and what we need to do much better. Overall, we are probably handling the issues of knowledge and clinical skills quite well. However, there was broad agreement that we have a long way to go in terms of attitudes and behaviour. How can we define them, develop them in our students and then assess them?

Medical education research

Prideaux challenged Colloquium participants to embed medical education research into academic medicine. In order to validate the effectiveness of new teaching approaches, medical education research must emphasise appropriate methodology. "Very little research is undertaken of our teaching programs in medical schools, and that which is done is usually methodologically unsound", said Prideaux. Current problems with medical education research include no clear focus or standards, no strong evidence base, little research in key areas, methodological confusion and inappropriateness, poor design, wrong questions, atheoretical approaches, and reduced generalisability. He challenged delegates to make robust medical education research an integral part of their school service.

Summary

The Australian National Medical Education Colloquium provided a productive forum for medical educators to meet and to discuss and debate important contemporary issues affecting Australian medical schools. None of us know what the future will hold, and some of the possibilities discussed at the Colloquium were futuristic indeed. We would be wise to keep an open mind, to focus very much on competence and fitness to practice, and to develop a strong evidence base, as we travel this important path.

References

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