

100 Years of Medical Education

By Prof Chee Yam Cheng, Editorial Board Member

INTRODUCTION

In 2005, Singapore celebrates 100 years of local medical education.

The King Edward VII School of Medicine began in 1905 and started training eligible, bright young men and women from Singapore and Malaya, as these countries were under British colonial rule. They received upon graduation the LMS and not the MBBS. There was no postgraduate medical degree available and rich, bright, dedicated doctors went over to the United Kingdom by slow boat, to London, Edinburgh and Glasgow for further training and examination. This was until the University of Singapore started its postgraduate Master of Medicine (MMed) Exams in the 1970s, with the help of the Australasian and British Medical Colleges. For about 10 years before this, our doctors took the Australian postgraduate degrees.

In the 1990s, conjoint exams with the UK Colleges in several specialties with the MMed Exams meant local (and regional) doctors could sit one exam, pay two fees, and if successful, obtain both degrees/diplomas without the need to venture overseas. And soon, Duke University (USA) will start its medical school at the Singapore General Hospital's campus, that is, you could obtain an American medical qualification right here in Singapore.



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well trained to do the job, and continue do so for the next 40 years. However, difficult cataracts should be outside his expertise and given to the Professor of Ophthalmology.



UK VERSUS USA

We grew up in the British system of training and now the American model is coming to our shores. Lest we short-change ourselves and feel inferior, we should count our blessings, and pride ourselves on clinical methods and bedside learning. We need high technology and even more high touch medicine. We have inherited the British model and it may be opportune to review where it is headed in the UK itself.

In Clinical Medicine 2004 Volume 4, page 5, an editorial titled "Our postgraduate training is better than we think" is based on an article in the same journal, by a German doctor sent to the UK for training. He described the "supportive atmosphere" in which doctors "strive to be memorable teachers to the next generation" and "a generous spirit of passing on experience in an encouraging environment prevails in Britain." He valued the freely available advice and personal bonds achievable even with "very distinguished doctors" who will without hesitation engage in educational conversation.

A great strength of the National Health Service (NHS) is the commitment to postgraduate education accompanied by well-structured curricula and supervision. There is breadth of education with rotation through a broad range of specialties



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PHILOSOPHY

Training doctors does not seem too difficult a task. After all, each year, over 600 straight "A" students vie for some 200 places at our only medical school. Being so bright, they should breeze through every course and examination system. They appear very motivated, as shown by their enthusiasm after the "A" Level exams when they apply to do free service at hospitals and GP clinics. At the interviews for selection of medical students, they give all the right answers to the simple as well as difficult questions. Yet, many are disappointed in not securing a place to do Medicine in Singapore. If rich enough, they enter medical schools usually in the UK, Australia or New Zealand.

and hands-on clinical experience. This is in sharp contrast to the German system where there is early and very narrow specialisation, and a lack of practical bedside experience.

The downside of the present NHS, besides poor hardware (equipment, investigations, buildings, IT systems, and so on), is the damaging effects of the new “nine to five” working culture. The European Working Time Directive has crucially damaged needed continuity of care, and conflicts with professional behaviour. While reduction in working hours of doctors in service is appropriate, frequent changeovers/handovers of patients is detrimental to patients’ safety.

Another change in the UK is that newly graduated doctors will undergo a two-year foundation programme to begin their careers (*British Medical Journal* 12 June 2004, page 1390-1). Thereafter, they can move on to specialist training grades. In effect, it is a two-year housemanship. It starts in August 2005 and all medical graduates will undertake an integrated planned programme of general training. The first year is unchanged – pre-registration postings. The second year offers doctors further generic skills training in a mixture of specialties. The end point is to have a competent doctor able to recognise and manage acutely sick patients, and ready to enter specialist training. This programme is not meant to develop specialist skills in doctors, despite pressure to train doctors for more complex tasks in shorter times. There should be resistance to target any individual doctor’s foundation programme at only one career path. To do so could erode its real strength, which is to ensure that all doctors have attained a broad competency level in patient care, and that those competencies can be demonstrated.

What about the USA? When the Duke programme is implemented, we will know. For one, it is a graduate programme and one year shorter, taking only four years to complete. My comment is that clinical bedside medicine may be insufficient. The retort may be that these graduate doctors are on the research scientist track anyway so clinical practice will not be their forte. But, I wonder. In the US specialist training model, Dermatology and Neurology do not embrace General Internal Medicine as a prerequisite. On graduating MD, the doctor can proceed directly to train as a Dermatologist or Neurologist (three-year programmes). For other medical specialties like Cardiology and Endocrinology, doctors need broad base ABIM (American Board of Internal Medicine) before proceeding for further training. The reason for this is historical – the American Board of Dermatology and Syphilology was born before the ABIM (1936), and these specialists were needed because syphilis was rife. Neurology has a joint Board with Psychiatry, which was also formed before the ABIM.



GOING GLOBAL

As we in Singapore welcome foreign talent of all types, doctors are not excluded. And when they apply to work in Singapore, credentialing is a process of utmost importance to ensure patient safety and credibility of our profession and institution.

We may say our standards are high and be proud of it. How then to compare with doctors with training backgrounds elsewhere? Being inheritors of the British school of Medicine, we are more comfortable accepting UK graduates (and also Australasian ones). But, as with all paper exercises, we really do not know how the doctor practises, until he is put on the ground, interacts with staff, and assimilates the local culture of work. So, no matter how bright, intellectual, and highly qualified he is on paper, the doctor can still be dysfunctional in our system.

As models of medical education change and progressively shorten in duration, and because everyone seems to be in a hurry, should we follow? What if we do not? Book knowledge, attending conferences and seminars, arguments and debates are fine for the intellect. But, there is no substitute for clinical experience – practising medicine is the acid test. Language skills are also essential for the development of good clinician-patient rapport.



UNDERGRADUATE FEEDBACK

Things have changed over the last 30 years since I was in our local medical school.

Feedback is now regularly sought from students, and it could be a tool to give them what they want. But, maybe they still prefer spoon-feeding – thinking is difficult, and speaking out, expressing views and generating meaningful discussions in small group tutorials are not easy. In my time, we were taught what we were supposed to learn. Maybe the syllabus was more defined. Yet, Gray’s Anatomy, Guyton’s Physiology and Harrison’s Medicine were heavy textbooks. Today, knowledge has exploded. How much should a student/young doctor know? How best to learn – be it knowledge, skills or judgment? What are the best ways to teach? School teachers are trained at the Institute of Education. Where do we go?

There is also a stark change in the grading system. Because all our students are super bright “A” Level graduands, it seems peculiar and unsightly that their medical school grades have few “A”s. So, the alphabet values have been devalued – if you obtain 50% of the marks, it is a “C” grade. Another reason why this has happened may be the global issue. Somehow, students who failed to get into our local school do very well in overseas medical schools. In comparison, we have “short-changed” ourselves. And this tells damningly when we try to compete for overseas scholarships or even local traineeship posts (unless the local interviewer panel is aware of the “inflated” overseas grades).

The third change is the lack of rapport between students and patients. If everybody spoke English, that may be just fine. Unfortunately, many do not have enough language skills to interact with the elderly of Singapore. For example, when a Chinese speaks to another in Mandarin, and receives a reply in *Hokkien*, there is a breakdown in communication. This may be one reason for the impending demise of the talking-thinking specialties in Singapore. The younger set is less patient, and probably prefers to cut, operate and perform tests, than speak, discuss and communicate with patients and their relatives. Yes, we are trying to teach communication

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skills, but it seems more profitable and easier to learn a surgical skill or operate a machine, and be able to charge big bucks. To talk and explain – which may not get an answer or understanding – and not be able to charge anything for the time and resulting angst, may be the reason why no one wants this skill. Maybe we could follow the lawyers?

The final difference I wish to mention is the rapid obsolescence of medical knowledge. There was no ultrasound, CT Scan, MRI or PET scan in my junior days. Luckily, the ECG and chest X-ray are still very relevant. The armamentarium of drugs is phenomenal today. We had methyldopa, reserpine, hydralazine and hydrochlorothiazide for hypertension; tolbutamide, chlorpropamide, metformin and bovine or porcine insulin for diabetes; Lopid for hyperlipidemia; antibiotics – a few; and cancer drugs – even fewer. Question is, how to keep up? We often tell students that what they have learnt is fifty percent outdated. The sad part is we do not know which half is outdated. So, the challenge is to unlearn and re-learn. However, brain memory chips are difficult to erase. That is why, with the onset of dementia, recent memory goes before old memory.



POSTGRADUATE EDUCATION

After the MBBS and the MMed exams, we still need to keep up with the exponential explosion in medical science, literature, tests and equipment.

The computer is essential equipment in today's business world. It will have to be compulsory infrastructure for the practice of Medicine within five years, if it is not already. Like the addition of two extra brains, one fitted into each ear, and with its huge memory, it will truly assist us in clinical decision-making by the bedside. It will also enable evidence-based Medicine to be practical, clinical practice guidelines to be adhered to and audited, and journal material to be accessed at the click of a button. We need to embrace this technology to provide the best quality care money can buy.

But, the computer cannot replace human skill in the operating theatre, bedside or invasive laboratory – yet! It cannot replace the human-to-human interface that is very much the art of Medicine, which unfortunately, many doctors shy away from because it is difficult, and patients today are more demanding, have high expectations and many questions. Doctors do not have all the answers and never will. The uncertainty of life remains real.

Hopefully, the tenets of ethics and professionalism do not change as rapidly. But as society globalises, it will become increasingly difficult to hold fast, uphold and maintain high standards. Materialism and decadence are pushing hard to erode our time-tested values.

Somehow, our medical education has to prepare us for the next 40 years of our professional life – to cope with changes, new possibilities like cloning, scarce resources, and so on. If it becomes increasingly difficult to provide the best medicine for all, then many will opt to provide the best medicine for the few – the few that are prepared to pay and can well afford it. Doctors will opt to super-specialise – one test, one equipment,

one disease – or be a one-organ specialist, rather than be a generalist. This is because it has become too painful and time-consuming to keep current. If all this is marketplace-driven, then the economic theory may need a revamp if we think certain values, skills and mindsets are worth preserving. Imagine if all the “money-losing specialties” have no takers for the next 10 years. What then?



TEACHING

There is the hope that students can learn on their own. Just give them the syllabus – they are old enough and mature, and the stakes are high. They can use the skills laboratory, surf the internet for online journals, medical education sites and chat rooms, and even ask the Professor at Mayo Clinic for advice. But, would all these work? Is there need for apprenticeship? Can Medicine be learnt piecemeal – is the whole practice considered relevant then? As some specialists would like to say: “I have cleared this organ. Your disease resides somewhere else. Here is my report. This is my fee. Go look for someone else to help you.”

What about our teachers? Do they only teach what will be assessed? How are exams run and what questions will be asked? Is assessment formative or summative? Are generalist doctors better suited to teaching undergraduates? What about postgraduates? Do we leave it to specialists to nurture their own kind? What does it take to tell a student he is not up to the grade? Or do we pass the doctor anyway – there will be experiential learning along the way.



CONCLUSION

I am awaiting the input of American Medicine into our system. It is possible to combine the best of British (and Australasian) and American clinical Medicine.

First, we need to be clear about the product. A good doctor? A family physician upon graduation? I think not. Soon, further training, examination and assessments would be needed before one can enter family practice. There will be a compulsory two-year general training in clinical Medicine for those opting to be clinicians, and a one-year internship for all others who choose non-clinical careers, for example, administrators, scientists, researchers.

Next, the career tracks for admission to the specialist register in Singapore are already quite clearly marked out. However, there may be changes: teach less, learn more; shorten training duration; pass tests of competencies in modular fashion; allow part-time training to meet family commitments (as more ladies are admitted into medical school); increase the pool of clinician scientists/researchers; nurture entrepreneurs who are medical doctors; re-certify doctors fit to practise from time to time.

It is indeed a challenging time to learn to be a doctor. And it will be more challenging to remain as one, and even more so to ensure that medical doctors trained in the British/American, that is, Western system, remain relevant to society and the health of the nation. ■