

2005 Distinguished Academician Lecture: Evolution of Postgraduate Medical Education in Singapore – Role of Professional Associations

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Abstract

From 1910 to 1945, doctors in Singapore received postgraduate training through apprenticeship. During the early post-war period, some doctors in the public service were given scholarships to study in Britain and to obtain higher professional qualifications from the British Royal Colleges. The events that most influenced subsequent development of postgraduate education in Singapore occurred between 1956 and 1969: the formation of the Academy of Medicine and the Singapore Medical Association (SMA); organisation of courses for candidates preparing for examinations of the Royal Australasian and British Colleges; competition between the Academy and the University over responsibility for postgraduate medical education; the inauguration of the School of Postgraduate Medical Studies (SPMS); and the introduction of Master of Medicine (M Med) degrees in various medical specialties. From 1970 to 1999, there was expansion in several aspects of postgraduate medical education: SPMS awarded more than 2000 M Med degrees; the Singapore Medical Council (SMC) established a Register of Specialists and formed a Specialist Accreditation Board; the Academy formed Chapters in 10 specialties and developed Advanced Specialty Training programmes leading to Fellowship of the Academy of Medicine Singapore (FAMS); the SMA formed Societies in some 20 specialties; and a College of Family Physicians was inaugurated. There have been more developments from 2000 to 2005: the University restructured SPMS as a Division of Graduate Medical Studies within the Faculty of Medicine; the SMC implemented compulsory Continuing Medical Education; and the Academy converted 6 of its 10 Chapters into Colleges.

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Introduction

Postgraduate medical education in Singapore may be regarded as having begun in 1910, when the first batch of doctors graduated from the Straits and Federated Malay States Government Medical School. This lecture reviews its development through 5 periods.

1910 to 1945

Much of the postgraduate education during this period was through apprenticeship and, for the most part, confined to doctors working in hospitals; it consisted mainly of casual in-service training, ward rounds and occasional hospital case-conferences. It was only after World War II that postgraduate education became more formal and systematised with the establishment of educational programmes open to all doctors and courses leading to

higher professional qualifications. The only recognised postgraduate course before World War II was the International Course in Malariology for Asian Health Officers, which was organised in the College of Medicine by the Health Committee of the League of Nations. This 2-month course was held annually from 1934 up to the outbreak of World War II in Europe.¹

The professional associations were not seriously involved in any educational activity during this period. There were then 2 professional medical associations in Malaya (including Singapore): the Malaya Branch of the British Medical Association and the Alumni Association of the King Edward VII College of Medicine.

The Government Medical Service in Malaya was then structured on a 2-tier system. Expatriate doctors with

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British qualifications were appointed Medical Officers on a higher scale of salaries, while local doctors with the local qualification were appointed Assistant Medical Officers on a lower scale; virtually all the senior professional and administrative positions were occupied by expatriate British doctors. Local doctors were not encouraged to go overseas for specialist training or higher qualifications; they were in fact discouraged from doing so. G Haridas, the first local graduate to obtain an MRCP, was given a scholarship on one condition, later withdrawn, that he should not sit for any higher examination.^{2,3} M E Thiruchelvam, the first local graduate to obtain an FRCS, went overseas during his vacation leave to take the examination.²

World War II reached us on 8 December 1941, when the Japanese landed in northern Malaya and began dropping bombs on Singapore. The Japanese Army advanced rapidly through peninsular Malaya and the British Army surrendered on 15 February 1942. On the morning of 16 February, the Japanese Military Administration requisitioned the Singapore General Hospital and the College of Medicine for use by the Military Authorities and issued an order for the entire campus to be evacuated within 48 hours. The British expatriate doctors, along with the rest of the British community, were sent to Changi for internment.

The hospitals that continued to serve the Singapore population during the Japanese Occupation were the Kandang Kerbau Hospital, which functioned as the Central Civil General Hospital; the Tan Tock Seng Hospital, which also functioned as a General Hospital; and the Mental (Woodbridge) Hospital; these hospitals were all given Japanese names. With all expatriate doctors away in internment, local staff became fully responsible for maintaining the hospital and public health services throughout Malaya. They discharged this responsibility with professional competence, and thereby gained a degree of confidence in their capabilities that influenced their attitudes and aspirations after the war. Working under the most difficult circumstances, these hospitals not only provided basic medical services to the community but also promoted postgraduate medical education by holding periodic clinico-pathological conferences.

The war ended with the Japanese surrender on 2 September 1945. The British forces returned 3 days later and Singapore came under the British Military Administration on 5 September 1945.

1946 to 1955

Singapore became a British Crown Colony in April 1946 following the dissolution of the Straits Settlements. British expatriate staff returned to their old positions, but the War had made it difficult for the Government to maintain its discriminatory 2-tier system of appointments. The Alumni

Association campaigned successfully for the establishment of a unified medical service; the medical service was the first in which discrimination between expatriate and local officers was eliminated.²

In 1947, the Alumni Association commenced a regular programme of weekly clinico-pathological conferences and lectures. This programme probably represented the first systematic attempt to promote continuing medical education. The meetings in Singapore were held in the lecture theatre of the old Department of Pathology. They were well attended by hospital doctors and private practitioners, some coming down from Johor Bahru. A quarterly journal *Proceedings of the Alumni Association of the King Edward VII College of Medicine* began publication in 1948 with B R Sreenivasan as its first Editor.

The Colonial Government, now more liberal, provided local doctors with scholarships and bursaries for study in Britain leading to higher qualifications. Most of these doctors were successful in getting the qualifications they sought, but the programme was nonetheless wasteful in some ways because their courses in Britain, during which they were absent from work in Singapore, were focused more on passing examinations rather than on acquiring new skills or on upgrading professional competence; those who obtained the Membership or Fellowship of one of the UK Colleges often spent the rest of their study in Britain getting similar qualifications from other Royal Colleges.

In 1953, the Faculty of Medicine introduced a course leading to the Diploma in Public Health (DPH) through the initiative of J H Strahan, the Professor of Public Health and Social Medicine. The DPH, the first local postgraduate qualification, received financial and moral support from the World Health Organization and recognition from the UK General Medical Council.¹

1956 to 1969

This period is notable for the occurrence of several events that had the greatest impact on the evolution of postgraduate medical education in Singapore: the formation of the Academy of Medicine; the organisation of courses for candidates preparing for qualifications awarded by various Royal Colleges in Australasia and Britain; competition between the Academy and the University over responsibility for postgraduate qualifications; the inauguration of the School of Postgraduate Medical Studies; and the introduction of the M Med degree in various medical specialties. It may be of interest to review these events chronologically.

1956: E S Monteiro, then the Dean of the Faculty of Medicine, wrote to the Director of Medical Services, proposing the formation of a Committee to organise postgraduate courses and to advise and screen candidates

going abroad for postgraduate studies; he also proposed the formation of a Statutory Body with power to hold examinations. The Director, E H Bland, replied there was no need for a Statutory Body because the University was already empowered to award degrees and diplomas; he felt the initiative for any further developments should come from the University.^{4,5}

1957: The Academy of Medicine was founded in August 1957. It was launched as the Academy of Physicians and Surgeons to represent the opinions of medical specialists and was re-named as the Academy of Medicine in 1958. One of its several objectives, as set out in its Memorandum of Association, is “to grant specialist certification to persons who have fulfilled the criteria laid down”.⁶

1959: The Singapore Medical Association (SMA) was inaugurated in 1959. Malaya had become independent in 1957 and Singapore, granted limited self-rule in 1957, became an internally self-governing state in May 1959; the dissolution of the Malaya Branch of the British Medical Association (BMA) and the formation of the SMA were logical consequences. All BMA members who were resident in Singapore on 2 August 1959 and all practitioners who applied to join by January 1960 were deemed to be Founder Members of the SMA. The 1st Council of the SMA had a Programme Committee which took over the educational activities of the Alumni Association. The *Singapore Medical Journal*, with A L Gwee as its first editor, published its first issue in March 1960.

1960: The Academy convened several meetings on postgraduate medical education that were attended by the Master of the Academy (Elaine Field), the Vice-Chancellor (A Oppenheim), the Dean of the Faculty of Medicine (T J Danaraj), and the Assistant Director of Medical Services (K Kanagaratnam).^{4,7,8} These meetings, described as “round table discussions”, appeared to have lapsed without any agreement on the major issue of organisational responsibility for postgraduate medical qualifications.

The Academy submitted a Memorandum on Postgraduate Medical Education to the Minister for Health together with a letter seeking the grant of a State Charter to conduct qualifying examinations for specialist practice. The Academy expressed the view that standards of postgraduate qualifications should be set by the whole body of specialists and not by a limited number of individuals engaged in university teaching and recommended that Government should aid a professional body, financially and administratively, to carry out postgraduate training and to conduct qualifying examinations.⁹ The Academy also sent this Memorandum to the Principal of the University of Malaya in Singapore seeking his support for its application for the Charter. The application was not supported by the University on the grounds that its standing would be

diminished if it relinquished responsibility for postgraduate education.⁸ The application was turned down by the Ministry of Health on the grounds that it would not be possible for the Government and the University to hand over control of postgraduate medical examinations to a private and autonomous Academy of Specialists in which neither had any representation.⁸

1961: The University of Malaya in Singapore appointed a Board of Studies to report on the desirability and feasibility of establishing a School of Postgraduate Medical Studies. This Board included representatives of the Faculty of Medicine and persons nominated by the Minister of Health Singapore, the Minister of Health Federation of Malaya and the Academy of Medicine. The Board was of the view that the establishment of a School independent of the Faculty of Medicine should be postponed for later consideration. The Board recommended the immediate establishment of a Committee on Post-Graduate Studies to frame policies on postgraduate medical education and an Executive Board to take responsibility for its day-to-day management.¹⁰ This resulted in the formation of a Committee comprising the Dean of Medicine University of Singapore (Chairman), 8 heads of specified departments in the Faculty of Medicine, Dean Faculty of Science, Dean of Medicine University of Malaya and 7 persons nominated respectively by the Ministry of Health Federation of Malaya, Ministry of Health Singapore, Academy of Medicine, SMA, Malayan Medical Association, Malayan Dental Association, and Malayan Pharmaceutical Association. The Executive Board consisted of the Dean of Medicine University of Singapore (Chairman), 3 Professors representing the Clinical, Para-Clinical and Pre-Clinical departments, 2 members elected by the Committee on Post-Graduate Medical Studies, and the Dean of Medicine University of Malaya.

1963: The Academy commenced its biennial Congress of Medicine. The First Congress was held in the Pathology Lecture Theatre in the campus of the Singapore General Hospital. The Second Congress in 1965 was also held in the Pathology Lecture Theatre. Singapore, which was part of Malaysia in 1963, became an independent nation in 1965 when it separated from Malaysia. This led to the formation of a separate Academy of Medicine Malaysia in 1966. The 3rd Malaysia-Singapore Congress of Medicine was organised by the Academy of Medicine Malaysia and held in Kuala Lumpur in 1967, and the 4th Singapore-Malaysia Congress was held in Singapore in 1969. These Congresses have since been held annually, alternating between Singapore and Malaysia.

During the early 1960s, the Academy of Medicine and the Faculty of Medicine conducted courses of instruction for candidates preparing for the examinations of the Royal Colleges in Australia and in the United Kingdom. The

SMA's educational programmes were not examination-oriented; they covered topics of general medical interest and were intended to promote continuing medical education among its members.

It was during this period that the Faculty of Medicine approached the Royal Australasian College of Surgeons and the Royal Australasian College of Physicians for their assistance with regard to organising courses and holding some of their examinations in Singapore. Under a scheme initiated by G S Yeoh, the Professor of Surgery, and E S Monteiro, the Professor of Medicine, Australian lecturers came to Singapore as part of the Colombo Plan Aid to prepare candidates for the primary FRACS examination and the theory paper for the MRACP examination. These examinations were also held in Singapore, with the inclusion of local examiners in the case of the primary FRACS. Successful candidates were then given scholarships to undergo further clinical training in Australia where they took the final FRACS and MRACP examinations.³

1964: The Faculty of Medicine proposed the formation of a School of Postgraduate Medical Studies to cope with its increasing involvement with postgraduate courses and to investigate the possibility of providing diploma courses and other courses leading to postgraduate qualifications.⁵

1966: The University established a School of Postgraduate Medical Studies with a Director appointed by the Vice-Chancellor in consultation with the Dean, and a Board consisting of the Director and such whole-time teachers in the Faculty and such other persons as may be appointed by the Senate on the recommendation of the Faculty of Medicine.¹¹ The first Board of Postgraduate Medical Studies was composed of the Director (H B Wong), 1 member representing the "Pre-Clinical" Departments (E McEvoy-Bowe), 1 member representing the "Medical" Departments (P K Wong), 1 member representing the "Surgical" Departments (V K Pillay), the Director of Medical Services (G L Ho), 1 member representing the SMA (W O Phoon) and 1 member representing the Academy (A L Gwee).¹² This Board proposed awarding higher qualifications named "Higher Diplomas" in Surgery, Internal Medicine, Paediatrics and Obstetrics & Gynaecology¹³ but this proposal was forestalled by the turn of events in 1967.

1967 to 1968: On 8 October 1967, Deputy Prime Minister (DPM) Toh Chin Chye delivered a speech at the Annual Dinner of the University Medical Society in which he censured the Faculty of Medicine for not making any progress in the field of higher professional education; this was reported in *The Straits Times* of 9 October. The Master of the Academy (K Shanmugaratnam) wrote to the DPM on 12 October explaining that the Academy of Medicine existed for the advancement of medical specialisation and the establishment of higher professional qualifications in

Singapore and requested an opportunity for the Council to meet him on this question. At his meeting with the Academy Council on 4 November 1967, the DPM suggested that the Academy, the Faculty and the SMA should jointly send a memorandum on postgraduate medical qualifications to the Minister for Health.

A Joint Committee comprising representatives from the Academy (K Shanmugaratnam, A L Gwee and C S Seah), the Faculty of Medicine (K A Lim, H B Wong and S H Tow, with V K Pillay as observer) and the SMA (E K Koh, Y Cohen and W O Phoon, with J L Tan attending in W O Phoon's absence) held 4 meetings between February and July 1968, with K Shanmugaratnam as Chairman and E K Koh as Secretary. This committee concluded that "neither the University of Singapore nor the Academy of Medicine could at present independently be responsible for the conduct of postgraduate courses in medicine and the award of postgraduate qualifications".¹⁴ The committee recommended, by a majority vote, "that higher professional qualifications in various clinical specialties be awarded by the University of Singapore and that the School of Postgraduate Medical Studies be reconstituted to enable the Academy of Medicine to participate as equal partners in the training programmes and examinations".¹⁴ The Committee submitted its report in July 1968.

In April 1968, DPM Toh Chin Chye was appointed Vice-Chancellor of the University. In a speech to the Academic Staff Association on 27 April 1968, the Vice-Chancellor stated that postgraduate medical education was being discussed and that he thought the University really should play a prominent role in it. The University convened a Committee to formulate a new Statute for the School of Postgraduate Medical Studies; this Committee, with the Vice-Chancellor as Chairman, included representatives of the Academy (K Shanmugaratnam, A L Gwee, C S Seah), the University (K A Lim, H B Wong, S H Tow) and the Ministry of Health (G L Ho, S A Yeoh).

1969: The new Statute for the School of Postgraduate Medical Studies provided for the School to function independently of the Faculty of Medicine under a Board consisting of the Vice-Chancellor (Chairman), the Director of the School (appointed by the Vice-Chancellor), 4 whole-time teachers of the University (recommended by the Faculty of Medicine), 4 members of the Academy of Medicine (recommended by the Academy) and 1 member recommended by the Ministry of Health.¹⁵ The Board was directly responsible to the Senate for the policies and programmes of the School and was empowered to make regulations prescribing courses of study and syllabuses of examinations leading to postgraduate qualifications, and to appoint committees to carry out its policies.¹⁵ The degree of Master of Medicine (M Med) in various medical specialties

was adopted as the higher professional qualification.

1970 to 1999

The activities of the School of Postgraduate Medical Studies (SPMS), the Ministry of Health and the professional associations underwent much expansion and coordination during this period.

More members were added to the Board of the School of Postgraduate Medical Studies during this period: the Dean of Medicine in 1987, a representative of the National University Hospital in 1988, and the Master of the Academy of Medicine and a representative of the Health Corporation of Singapore in 1992. These additions were not really necessary because the Board was constituted as a policy-making body with powers to appoint committees to carry out its policies. The Dean and the Master of the Academy may have a valid ex-officio claim for Board membership but individual hospitals and clusters of hospitals are more appropriately represented by the Ministry of Health.

In 1998, the University re-named the School of Postgraduate Medical Studies as the Graduate School of Medical Studies.¹⁶ This change does not appear to have been an improvement: School of Postgraduate Medical Studies is a name that is familiar and unambiguous, whereas Graduate School of Medical Studies could be mistakenly associated with the University's second Medical School, which is named the "Graduate Medical School".

The School awards Master of Medicine (M Med) degrees in 14 specialties: namely Anaesthesiology, Diagnostic Radiology, Emergency Medicine*, Family Medicine, General Surgery*, Internal Medicine*, Obstetrics & Gynaecology, Occupational Medicine, Ophthalmology*, Orthopaedic Surgery, Otorhinolaryngology, Paediatric Medicine*, Psychiatry and Public Health; 5 of these degrees, those marked with an asterisk, are offered as joint examinations with corresponding Royal Colleges. The School places more emphasis on the quality of training than on examinations. Standards comparable to those of the Royal Colleges in Britain and Australasia are maintained by inviting specialists from these Colleges to participate as external examiners. Some of our M Med degrees are recognised by these Royal Colleges as being equivalent to their Memberships or Fellowships for purposes of reciprocal exemptions from parts of relevant examinations.³ The School also awards Graduate Diplomas in Family Practice Dermatology, Geriatric Medicine, Psychotherapy, Occupational Medicine, Family Medicine and Ultrasonography.¹⁷

The Singapore Medical Council (SMC) established a Register of Specialists in accordance with the Medical Registration Act 1997. Under this Act, registered medical practitioners who wish to practice or be known as specialists

will require certification by the Specialist Accreditation Board (SAB). A Joint Committee on Specialist Training (JCST), with the Master of the Academy and the Director of the School as co-chairmen and representatives of the Academy and the School on its Executive Committee, is responsible to the SAB for setting and maintaining standards. The JCST oversees Specialist Training Committees in 35 specialties and provides them with professional and secretariat support.^{18,19}

The Academy of Medicine formed 10 Chapters representing various medical disciplines. The Academy organises the Annual Scientific Meetings of its Chapters in addition to its biennial Singapore-Malaysia Congress of Medicine. It publishes the *Annals*, which started as a quarterly publication, and provides practice guidelines and quality assurance programmes for specialists. The Academy is a major participant in the teaching courses and examinations leading to the award of M Med degrees by the SPMS. It is responsible for Advanced Specialty Training (AST) programmes in various specialties that lead to Fellowship of the Academy of Medicine Singapore (FAMS) and eligibility for accreditation by the SAB.^{18,19}

The SMA had Societies in some 20 specialties to foster continuing medical education. The Society for General Practitioners was reconstituted as the College of Family Physicians in 1971.¹⁸ This College collaborates with the Ministry of Health and with the University Department of Community, Occupational and Family Medicine in the training and certification of Family Physicians; it also collaborates with the School of Graduate Medical Studies in programmes leading to Graduate Diplomas in subjects of special interest to Family Physicians.^{17,18}

2000 to 2005

In July 2002, the Graduate School of Medical Studies underwent yet another name change, this time indicating a change in its status. The School, previously independent of the Faculty of Medicine, became a Division of Graduate Medical Studies within the Dean's office; the Board of Graduate Medical Studies, previously directly responsible for the School's policies, became an Advisory Committee.¹⁷ This change may be regarded as a retrogressive development in evolutionary terms, because it has taken the School back to the situation in 1961 when it was represented by a Committee in the Dean's office. This change was probably made in order to bring the School in line with the Divisions of Graduate Studies in other Faculties of the University, but the Graduate School of Medical Studies is quite different from the Divisions of Graduate Studies in other Faculties. The Divisions of Graduate Studies in other Faculties are not responsible for professional qualifications; they are only involved with academic research-based degrees which

they are able to provide with their own staff and facilities. In the Faculty of Medicine, it is a Vice-Dean for Research and not the Graduate School who is responsible for research-based degrees like the MSc or the PhD. The Graduate School of Medical Studies is responsible only for professional qualifications, and it can discharge this responsibility only by working in close partnership with the Academy and the Ministry of Health. It would therefore be proper for the Ministry of Health and the Academy of Medicine, the major stakeholders in maintaining standards in specialist medical practice, to have more direct responsibility for postgraduate medical education and qualifications as Board members of an independent School rather than as members of an Advisory Committee of a Division in the Dean's office.

The SMC implemented compulsory Continuing Medical Education (CME) with effect from 1 January 2003. Under this scheme, the practising certificates of registered medical practitioners are renewed only if they meet the CME requirements stipulated by the SMC.

In 2004, the Academy incorporated 6 of its 10 Chapters as Colleges:¹⁹ the College of Anaesthesiologists, the College of Obstetricians and Gynaecologists, the College of Paediatrics and Child Health, the College of Physicians, the College of Radiologists and the College of Surgeons. These Colleges will have an enhanced and more independent role in the professional development of their respective specialties.

What Then of the Future?

Forthcoming developments in the National University of Singapore may have an impact on postgraduate medical education. In 2006 the University will have a second medical faculty, the Graduate Medical School (GMS), with its own Dean's Office; the GMS will offer a graduate-entry medical programme leading to a Doctor of Medicine (MD) degree.²⁰ Moreover the University will cease being a statutory body governed by an Act of Parliament and will become a corporate body with greater autonomy to adjust its courses and policies. These changes may not have an immediate effect on postgraduate medical education but there is the possibility that the interests and priorities of a University committed to Academic excellence and research may not always coincide with those of a School or Division of Graduate Medical Studies concerned with courses and qualifications pertaining to the professional aspects of specialist medical practice. The Division of Graduate Medical Studies may well need to evolve further, in terms of its status and structure, to meet these developments. The University is empowered to award postgraduate degrees and diplomas in medical specialties. However it is the Academy of Medicine, which has a membership of more than 1800 specialists and corporate Colleges in 6 major

medical specialties, which has the full professional capacity to conduct training courses and examinations in these specialties and it is the Ministry of Health which provides the training facilities, sets the standards of specialist practice and controls the accreditation of medical specialists. Any change that may affect the conduct or regulation of postgraduate medical education and qualifications should therefore be undertaken jointly by the University, the Ministry of Health and the Academy of Medicine.

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