

2nd Chapter of Paediatricians Lecture: The Future of Paediatrics in Singapore

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When I was first invited to give this 2nd Chapter of Paediatricians Lecture by the Chapter, my obvious answer was no. I could think of quite a few other paediatricians more qualified and appropriate as speakers and hoped that my emphatic no would work. Alas, it was not to be and being a mere Academy Fellow, I had to obey. I can only think of age being my strongest qualification to give this Lecture, knowing full well that the First Chapter of Paediatricians Lecture was given by Emeritus Professor Wong Hock Boon, the Professor of Paediatrics in Singapore.

We all know that the practice of medicine in Singapore, as in other countries, is a constantly evolving one involving both the science as well as the art of medical practice. The former takes into account the gradual change in disease pattern through the years as well as the constant flood of new medical information and knowledge supplanting the old. The art of medical practice is by no means static, especially when it involves our increasingly sophisticated, and Internet-savvy Singaporeans.

While the management of acute infections was by far the main paediatric workload in the 1960s, with gastroenteritis alone accounting for almost 20% of all admissions, the 1990s have seen it falling to below 10%. Conditions such as asthma, congenital heart disease, child abuse and cancers demand our attention nowadays.

We have to be thankful for the effectiveness of our childhood immunisation programme, which has resulted in the virtual disappearance of infectious diseases such as poliomyelitis and diphtheria in our patients; even measles is relatively uncommon nowadays. The discovery of and improvement to new vaccines against the rotavirus, respiratory syncytial virus, human immunodeficiency virus and malaria are eagerly awaited.

Paediatricians not only have to constantly upgrade their knowledge, skills and expertise to suit the changing disease pattern of the patients they treat. Equally important, with regards to the art of medicine, has been the higher expectations of Singaporeans, more sophisticated,

knowledgeable and demanding than before, which means that the modern day Paediatrician has to rise up to the challenge of patients armed with information hived off the Internet and often seeking for a second opinion locally or even from an advanced centre overseas. We have to learn to take all this in our stride, knowing that this has a lot to do with how expensive the practice of medicine in Singapore has become. Let us be consoled to know that it is a worldwide phenomenon that patients' demands are higher and that the status of doctors has diminished!¹

The history of medical schools in Singapore is a relatively short one, and the branch of Paediatrics was only formally established with the appointment of the first Professor of Paediatrics in 1962 and the School of Postgraduate Medical Studies running the Master of Medicine (Paediatrics) examination from 1970. Indeed, the two names that stand out in the development of paediatrics in Singapore are the late Dr Gopal Haridas, the Father of Paediatrics, (whom I did not have the honour of knowing but whose memory lives on in the form of the prestigious Haridas Memorial Lectureship), and Emeritus Professor Wong Hock Boon, who, despite his age, is still actively practising paediatrics in the private sector. I would be failing in my duty if I did not mention the late Dr Tan Kwang Hoh, who was Head of the Government Department of Paediatrics, Singapore General Hospital, at the same time that Professor Wong was Head of the University Department of Paediatrics in the same Hospital. Dr Tan was my mentor when I did my first Medical Officer posting in his Department way back in 1965.

Singapore has enjoyed a high standard of healthcare for many years. Judged by internationally accepted health indicators such as infant mortality rate and life expectancy, we have achieved excellent figures in recent years. Indeed, from a modest infant mortality rate of 31 per thousand live births in 1960, which was significantly worse than that of developed countries like Australia, Denmark, the United Kingdom and the USA, our current rate of about 4 per thousand indicates how steady our progress has been, as we

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are now equally ranked with them. Interestingly, our improvement in infant mortality rate over the past 40 years appears to be identical to that of Japan, though we have yet to discover the secret of Japanese longevity! Incidentally, the World Health Organisation (WHO) has officially ranked the Japanese as number one in the world for having the longest healthy life expectancy of 74.5 years overall, with males at 71.9 years and females at 77.2 years.

Our encouraging health indicators are even more commendable if we consider that our official health cost, expressed as percentage of recurrent health expenditure/gross domestic product for the financial year 1999, was 1.16 and the percentage of total Government health expenditure/total Government expenditure was 7.0. To add to that, we work in an environment short of medical and nursing manpower.

The reorganisation of the public medical service from the umbrella of the Ministry of Health as part of the civil service, to a restructured system now divided into two clusters, has naturally given rise to concern as to its side effects and a feeling of increased job insecurity with regards to positions available in the various public institutions.

The official outlined goals and objectives of the two clusters are :-

1. Provision of good, affordable and accessible health care services to Singaporeans;
2. Integration of services to provide seamless care to our patients;
3. Provide care at the appropriate level.

While one can easily argue that all this was in place under the previous organisational structure and only needed constant adjustment to keep up with increasing demands, we clearly have to move on and take the challenge head-on. Not to do so would result in a further reduction in medical input on the type of medical service we want for Singapore.

Indeed, recent medical literature abounds on the subject of non-medical involvement or intrusion into the practice of medicine by health maintenance organisations (HMOs), powerful industry and politics.²⁻⁴ An interesting essay² entitled “Protecting Medicine in the 21st Century”, appeared recently in *Science Magazine* of the American Association for the Advancement of Science, written by C Everett Koop, who served from 1981 to 1989 as the United States Surgeon General and continues to educate the public about health issues through his writings. He wrote that when he was Surgeon General, he strove to advise people about what they can do to promote health and avoid disease. He has since discovered that medical science can be pushed aside by economics and politics, citing as an example that while the scientific evidence for the addictive dangers of

tobacco was incontestable, the Republican Senate in 1998, influenced by tobacco industry money, killed the tobacco legislation. He expressed concern about the intrusion into medical education by investor-controlled health care companies and stated that Americans are only slowly realising how many medical decisions have been taken out of the control of physicians and other health care personnel and placed on the desks of accountants and businessmen. He added that his remarks were not intended to be a diatribe against managed care and that the outcome depended as much upon doctors and patients as it did on politicians and health care policy-makers. He ended his essay with the statement that the issues of managed care, patient rights, physician professionalism, medical research and health care in America need to be lifted from the bottomline to our highest aspirations.

We have much to learn from this American viewpoint.

On home ground, a moving speech⁵ by none other than our previous Master of the Academy of Medicine, Professor Chee Yam Cheng, caught our attention. His speech to the new medical graduates at their Convocation, entitled “Early 21st Century Professional Practice: Change and Challenge”, touched on the threats to professionalism posed by the corporatisation and the increasing commercialisation of medicine. He felt that we should not allow medicine with its fundamentally altruistic and patient-before-profit philosophy to be replaced by a complex, profit-driven corporate system with capitalistic values.

The five major capitalistic values emphasise the following: profit, competition, responsibility to stockholders, services driven by the market and standards set by external forces. In contrast, the five major values of the medical profession have traditionally emphasised service, advocacy, altruism, services driven by the application of knowledge and standards set and maintained internally. Furthermore, capitalistic values stress on consumerism, short-term goals, and giving society what it thinks it wants, whereas the medical profession stresses humanism, long-term goals and meeting society’s needs.

Here again we have much to learn and to concede that while the health system gets more complex and expensive, requiring us to get professional financial managers, we should resist relinquishing our leading role in decision-making on important health matters and in forcing the issue when the health and welfare of our patients matter most.

The opening of Singapore’s first Children’s Hospital in 1997 was a major milestone in the advancement of paediatrics in Singapore. The pooling of paediatric expertise mainly from the two Departments of Paediatrics of the Singapore General Hospital and the Tan Tock Seng Hospital resulted in a meaningful number of paediatricians, enabling

us to set up several subspecialty divisions with their own heads. This has to be an on-going process to eventually cover all the major paediatric subspecialties, leading eventually to pure subspecialty practice as the goal. Currently, the only paediatricians doing pure subspecialty practice are the neonatologists, cardiologists and intensivists.

The career pathway for the budding paediatrician presently starts from being successfully chosen as a paediatric trainee doing 3 years of basic training, leading on to 3 years of advanced specialist training (AST) after passing the Master of Medicine (Paediatrics)/MRCP (Edinburgh) examinations. Often, the advanced specialist trainee is sent on a 1-year Health Manpower Development Plan (HMDP) Fellowship some time during the third year of AST for attachment to an advanced centre abroad to train in a specific subspecialty. Whether HMDP fellowships continue in this fashion remains to be seen.

A recent paper in Paediatrics,⁶ written by a leading paediatric gastroenterologist of the Massachusetts General Hospital and the Children's Hospital in Boston, titled "A Subspecialist's View of Training and Paediatric Practice in the Next Millennium", highlighted the fact that America needed to ensure that their training programme would not result in a glut of paediatric subspecialists, as had occurred in internal medicine. He acknowledged that the country was top heavy in subspecialists and quoted a leading British paediatric gastroenterologist, who was a visiting professor, as saying that "we have more paediatric gastroenterologists on staff in our Combined Programme in Paediatric Gastroenterology and Nutrition at the Children's Hospital and on the Paediatric Service at the Massachusetts General Hospital than all of the United Kingdom."

Clearly, we can ill-afford to follow this path of over-training subspecialists.

The same paper suggested a change in subspecialty training to accommodate the paradigms of future subspecialists. Essentially there would be three types of subspecialists, viz.

- a) The paediatrician/subspecialist seeing general paediatric patients as well as their subspecialty patients (this in fact is what most institutional paediatric consultants are currently practising in Singapore);
- b) The super-subspecialist doing full-time institutional practice, who has unique diagnostic or therapeutic expertise;
- c) The physician/scientist who becomes trained as a scientist for a career in basic and clinical research.

This interesting concept would take years to evolve.

Meanwhile, our primary objective should be to ensure

that we retain our most promising young trainees and paediatricians to secure a bright future for paediatrics in Singapore. The lure of the more lucrative private sector will always be around, and the current ongoing economic recovery and the opening of new medical centres and private hospitals mean that the public institutions have to respond by devising schemes which will help retain staff. The recent pay rise targeted at the junior medical staff and enhanced night duty allowance have certainly helped. What they now need with the new cluster formation is reassurance on their career pathway and job security with clarification on positions available in the various public institutions.

In this respect, I was very interested in reading the March 2000 issue of the Juniors' Newsletter⁷ circulated to all Fellows and Members of the Royal College of Paediatrics and Child Health, UK, titled "Paediatrics in 2000 to 2010. Principles and Solutions." The Trainees' Committee had drawn up their proposals on paediatric training and they were as follows:-

- a) Trainees are there primarily to be trained.
- b) The number of trainees should be set according to workforce requirements.
- c) All competent paediatric trainees who have passed the Master of Medicine (Paediatrics)/MRCP examination and subsequently successfully completed advanced specialist training should have a reasonable expectation of appointment to a consultant post.
- d) There may be healthy competition for sought-after consultant posts.
- e) Valid, reliable and up-to-date information on consultant vacancies and the number of trainees in paediatrics and its subspecialties must be made widely available to trainees throughout their careers.
- f) Career guidance must be available to all trainees. It must enable them to make choices based on workforce requirements.

At the time of publication, the proposals of the Trainees' Committee had yet to be endorsed by the College, but they do sound very reasonable.

The Paediatrician of the future must not only subspecialise, but also be computer literate and well conversant with all the high technological innovations coming on stream, including an understanding of molecular genetics which directly or indirectly impinges on so many human diseases.

The era of molecular medicine is upon us and opens the door to many exciting possibilities in medicine.⁸⁻¹¹ Soon it may no longer be sufficient to define diseases at the clinical or phenotypic level. The definition of diseases in subcellular, molecular or genetic dimensions could be the norm. The

explosion of knowledge on the biology of cancers will open new vistas for therapeutic intervention, leading to tailored therapies to suit individuals and their cancers.

The mapping of the human genome is a landmark scientific achievement offering wide-ranging potential to improve the quality of human life. It will ultimately improve the ability of medical science to identify and treat inherited diseases, but much work still lies ahead and it will take years for practical applications to emerge. In addition, ethical, legal and monetary implications that accompany it need to be broached.

Telemedicine and teleconferencing will also be more widely used.

Of more immediate medical importance is the fact that evidence-based medicine (EBM) is having an increasing influence in governing the way we practise medicine.^{12,13} We all know that keeping up to date in paediatrics is a real challenge. With the rapid expansion of clinically relevant information in medicine, textbooks are out of date almost by the time they are published. More than 2 million new scientific papers are published each year; keeping up with basic paediatric literature alone would require reading at least 5 journal articles each day, 365 days a year.¹⁴ All this means that for the doctor of the future, continuing medical education will become increasingly important. Already, we are seeing the importance of spelling out clear antibiotic guidelines, if we are to avoid or delay the terrifying scenario of the future where antibiotics become increasingly obsolete with increasing numbers of antibiotic-resistant organisms developing.¹⁵⁻¹⁹

The phrase EBM was coined by a group of physicians at the McMaster University in Ontario in the early 1990s.¹⁴ The meaning of EBM has evolved since then; its most recent definition is “the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.”²⁰

The frustration over what really constitutes EBM made me enjoy an article²¹ entitled “The Evidence for Evidence-Based Medicine” in the publication Fellowship Affairs of the Royal Australasian College of Physicians in April 1999. It concluded like this: “EBM is not new. It is not a panacea and has not got all the answers for all the clinical situations. Medicine is full of grey areas and there is a place for judgement, even though this may be made easier with the help of EBM. Whenever possible, we should practice EBM, remembering medicine is an art of probabilities and a science of uncertainties. Good doctors use both individual clinical expertise and the best available external evidence. Needless to say, they complement each other.”

I guess we can safely assume we are all good doctors!

I also doubt that doctors will ever be jobless in the future.

Through all the hype about the irrelevance or uncertain future of doctors in the new millennium, one cannot envisage the computer or a robot replacing doctors. The human touch will always be needed in doctoring and even more so in palliative care of terminally ill children. We all now realise the importance of work groups that complement the work of doctors by giving vital support to families with children stricken with serious, chronic or devastating illnesses.

All paediatricians must be caring doctors as they are treating sick children. That obvious guiding principle, however, may be forgotten in our change of attitude when we encounter difficult patients or parents.²² The medical curriculum does not provide us specific communication skills to care for, and sit and listen to our sick patients, and we shy away from suffering and death, regarding them as medical failures.²³ Of all the complaints levelled against medical practice, our often insensitive behaviour is the main one. Speaking in 1903, Sir William Osler observed that “half of us are blind, few of us feel, and we are all deaf.” We should all reflect on that saying.

In closing, may I just say that the paediatrician’s ability in showing empathy and compassion for his patient is vital and should never be forgotten in our quest for perfection in the management of sick children well into the future.

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