

# THE DOCTOR IN THE FUTURE

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## SYNOPSIS

In the near future Singapore will be faced with the problem of a doctor surplus. Projections indicate that this stage could be reached in 15 years.

We are familiar with the advantages of a low doctor: population ratio. We need to face the dangers of having too many doctors, the situation existing in Europe over the past decade. A study of the relevance for Singapore of the European experience is urgently required.

In the United States of America, the percentage of specialists has risen in the past generation to 85%. This response of specialisation to a doctor excess incurs attendant disadvantages, including specialists becoming substantially involved in primary care.

The resolution of these and other changes, which appear inevitable, and the possibilities for the future relationship between patient and doctor and between society and medicine present exciting prospects for the doctor in the future in Singapore.

## THE DOCTOR IN THE FUTURE

Mr Chairman, Fellow speakers, ladies and gentlemen,

I would like to thank the Singapore Medical Association and in particular the Chairman of your Scientific Subcommittee for your kind invitation to speak at the SMA Silver Jubilee National Medical Convention.

At this convention we are looking forward to the future of the next 25 years. The other speakers have very ably spoken of their perceptions on their respective aspects of the medical future and dealt with their topics in a very interesting manner.

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## FACTORS AFFECTING THE FUTURE DOCTOR

What is the doctor in the future going to be like?

Advances in medicine, the nature of training in medical school, the medical expectations of society in the future, the organisation of medical institutions, the prevailing attitude regarding the funding of medical care, and the continued ability of medicine to attract able young recruits are all forces which will mould the doctor of the future. The interplay of these forces are complex, and tracing their interaction over a time span of 25 years will be complicated.

It is possible to attempt to isolate some of these factors and speculate on their effects in the future. We can look at the trends of the recent past which point to the prospects of the future. The validity of numerical projections based on available statistics are, however, subject to changes of policy and circumstances.

## ADVANCES IN MEDICINE

Within these limitations there are qualitative changes which we can be reasonably certain about for the future. There will be tremendous advances in medical, scientific and technological fields, which will aid both diagnosis and treatment. These are likely to be very exciting and will transform the realm of medical possibilities. Powerful new tools will be placed in the hands of doctors which will enable them to provide better and more effective medical care. We have every reason to be optimistic that the doctor will be able to do more for the patient in the future than we can for our patients today.

## THERE WILL BE MORE DOCTORS

A second certainty is that there will be more doctors in Singapore. The net change can be calculated to be an increase of 66 doctors per year through the years 1963—1978 and an average increase of 132 doctors per year from the year 1980 (1,2,3).

Over this same period there has also been an increase in population (1,2,3). Projections show that the population of Singapore will increase till zero population growth is reached in the year 2030 at a stable population of 3.392 million (4). The movements of foreign workers will not alter these projections substantially.

### SINGAPORE DOCTOR: POPULATION RATIO

Year	No. of doctors	Population (millions)	Doctor: Populations
1963	852	1.7752	1: 2084
1968	1159	2.0120	1: 1736
1973	1565	2.1851	1: 1396
1978	1850	2.3344	1: 1262
1983	2361	2.5020	1: 1060

(Source: reference (1) (2) (3))

The doctor: population ratio for Singapore has been dropping from 1: 2084 in 1963 to 1: 1060 in 1983. It will continue to drop. It may be a surprise to some to find that we have achieved a doctor: population ratio of below 1: 1000. The projections which we can build up from the trends already mentioned show that we will reach surprisingly low ratios in the decades ahead.

Among others, Wong (5) has pointed out — “While the World Health Organisation (WHO) has propounded a doctor-patient ratio of 1: 800 for Singapore, the meaningfulness or desirability of such a ratio must be examined in relation to its local context.

In urbanised Singapore, one doctor can geographically serve a much higher number of patients than could a doctor in a vastly rural country. Further the unusually high presence of traditional practitioners etc is not normally a feature in countries that rely on WHO figures seriously.

Administrators who hope to lay out a personalised primary health care service at low cost to the public in the private sector by flooding it with an excess of private medical practitioners without careful evaluation of the special relationships of private medical practitioners to market forces may encounter an unexpected problem with no ready solution”.

### PROJECTIONS FOR SINGAPORE DOCTOR: POPULATION RATIO

Year	No. of doctors	Population (millions)	Doctor: Populations
1980	1976	2.413	1: 1222
1990	3276	2.708	1: 826
2000	4576	3.000	1: 655
2010	5876	3.205	1: 545
2020	7176	3.336	1: 465
2030	8476	3.392	1: 400

Over 1980—1983 net increase is 130 doctors per year.  
Over 1963-1979 net increase is 66 doctors per year.

What are the implications of decreasing doctor: population ratio? First, there is increased availability of medical care with increased medical manpower. Second there is the possibility of increasing medical specialisation and we already have this in Singapore with the proliferation of subspecialties. Third, there will be a comparative drop in doctors earnings. These are rather obvious consequences.

There are other consequences which have been evident for some time now in countries with a low doctor: population ratio. A review of the situation in the European Economic Community is relevant.

## MEDICINE IN THE EUROPEAN COMMUNITIES IN 1982

It has also been the experience of the countries in the European Community to have a several fold (1.5—3.18) increase in medical manpower over the last 25 years (6). Over a comparable span of time the figure for the Singapore increase of doctors is 2.77 (for 1963—1983) and 3.10 (for 1963—1985).

The doctor: population ratios are all below 1: 1000. Projections show that by the year 2010, 25 years from now, Singapore will be well within this league of nine nations with 1: 545. By 2030, Singapore with a ratio of 1: 400 will be exactly comparable to countries like Belgium and Denmark.

Brearley (6) who presented these figures found it difficult to obtain reliable figures of unemployed doctors, although for some years no one has contested the statement that there are sizeable numbers of unemployed doctors in these countries. The consequences of achieving such low doctor: population

ratios are not confined to unemployment. He identifies several categories of poor doctor utilisation — simple unemployment, under employment, unsuitable unemployment, temporary employment, and periodic unemployment between posts.

He states "There are obvious dangers that doctors will be forced to do work previously undertaken by paramedical workers or to share medical work thinly among themselves with a consequent lowering of financial reward and dilution of professional experience to the point where their actual clinical competence is also in danger.

This is the case in Belgium, where there are now doctors and surgeons who treat only one or two patients a week.

It seems paradoxical that an excess of doctors now constitutes a major threat to health care".

### AN OPTIMUM DOCTOR: POPULATION RATIO?

Most countries of the world are still frantically trying to reduce their high doctor: population ratio. The significance of this European realisation that there is an optimum ratio below which such efforts are counterproductive will not be appreciated for some years.

What is the optimum ratio? Four measures can be used — patient safety, medical employment, specialist training, and undergraduate training. Brearley (6) suggests that a ratio of 1: 380 as in Belgium is unacceptable on the first count. A ratio of 1: 620 as in the United Kingdom is unacceptable on the second count; this is particularly relevant in Singapore which stands on a narrower population base and cannot afford to waste talented manpower.

The adequacy of both specialist and undergraduate training is subject to a through-put of sufficiently varied and suitable clinical material. Doctors who have trained and worked both in Singapore and in Europe will be keenly aware of the balance of advantages between more clinical work and more free time. This realisation gives a hint of the optimum ratio for training, signalling that it should be higher than the ratios in Europe some years ago.

In Singapore we are unfamiliar with the idea that too many doctors and a very low doctor: population ratio poses a real threat to health. Our initial reaction is likely to be disbelief and incredulity. However, at the very least we should monitor carefully the continuing European experience. We will begin to reach their critically low level within 15 years; in 25 years we will be well within their levels. There is, therefore, ample time for policy and other changes to alter the projections made for Singapore.

### DOCTOR: POPULATION RATIO IN EUROPE IN 1982

Country	No. of doctors	Population (millions)	Doctors: Population
Belgium	26,000	9.9	1: 380
West Germany	178,000	61.5	1: 345
Denmark	13,000	5.0	1: 385
France	143,000	54.3	1: 380
Ireland	5,000	3.4	1: 680
Italy	200,000	56.5	1: 282
Luxemburg	567	0.4	1: 705
Netherlands	28,000	14.3	1: 510
United Kingdom	90,000	55.8	1: 620

(Source: reference (6))

### SINGAPORE'S AGING POPULATION

Pari passu with changes in population numbers there is the expected associated aging of our population (4). Those aged 65 and above will constitute not just about 5% of the total population as now, but in 2010 will be 9.2%. The elderly tend to be sick more than younger persons. Their sick rate may be 18—27% of all patients presenting. A consequence is that the doctor in the future needs to know more about geriatric medicine.

### PROJECTIONS FOR SINGAPORE AN AGING POPULATION

Year	Population (millions)	% 65 years +	% of attendance
1980	2.413	4.7	14.1
1990	2.708	5.7	17.1
2000	3.000	7.2	21.6
2010	3.205	9.2	27.6
2020	3.336	14.1	42.3
2030	3.392	18.9	56.7

(Source: reference (4))

### CONTENT OF TRAINING

The course content of the medical school requires to be modified in the light of this and other emerging needs.

In addition to changes in emphasis within subjects taught, the introduction of new subjects is inevitable. Overloading of the medical students curriculum is a common disorder in the history of medical teaching. When purges are carried out preclinical subjects invariably suffer. It is to be hoped that as the details in these subjects are cut back, enough will be retained to give the doctor of the future a sense of scientific methods and of the roots of scientific medicine.

In clinical training a return to the fundamental purpose of medical schools — to produce competent and safe doctors with a broad appreciation of the needs of the community he works in — should be the guiding principle in curriculum review; sacrifices made in crowded teaching programmes might consist of the brave postponement of teaching many aspects of clinical medicine to a later stage, at post-graduate level for specialists.

### INCREASING SPECIALISATION

Many factors will promote medical specialisation. The twin factors of the desire of doctors to specialise and of the public for specialists to attend to them will continue to fuel this process. In addition the decreasing doctor: population ratio will add impetus to the enhancement of medical specialisation. In the field of oncology, for example, we may see further specialisation; already the reality is that we have haematological oncologists, and in the future we may have neurological oncologists and gastrointestinal oncologists and so on.

We do not have a register of specialists in Singapore. However, the Academy of Medicine shows a membership that has increased year by year to 578 in 1985 out of a total of 2641 registered doctors. Further not every doctor who has a higher qualification or practises in a specialty is a member of the

Academy of Medicine. The College of General Practice have held stringent examinations and more than 50 doctors have earned their Membership of the College of General Practitioners Singapore.

Already more than 25% of Singapore doctors have a higher qualification. I venture to predict that the proportion of specialists will rise and that within the next twenty five years there will be an absolute majority of specialists. Once this half-way mark is reached every newly graduated doctor will feel impelled to specialise in one field or another.

#### **PRIMARY CARE, DIRECT ACCESS AND REFERRAL**

In Britain, there is a clear cut procedure for obtaining specialist attention. Within the National Health Service the general practitioner sends the patient to a specialist with a letter of referral. The system is so ingrained that the British specialist does not function as a primary care doctor.

In the United States of America, the trend has been on training specialists. In 1940 63% of the profession were in family practice; by 1973 this had dropped to 15% (7). Although the American specialist practises specialist medicine, there is direct access to the patient, and it has been estimated that he spends half his time in providing primary care.

In Singapore, the clear-cut British system of primary care doctor referring to specialists never did take root completely. The Singaporean patient practises direct access self-referral to the specialist whom he thinks can help him most. The advice sometimes comes from a friend, sometimes from a relative, and sometimes from a colleague. Whilst a lot of time the choice of the specialty will be correct and appropriate, there will be a substantial proportion of inappropriate consultations.

Doctors in Singapore, whether specialists or family or general practitioners, are uniformly against this practice. The reasons are cited by a specialist Prof. Seah Cheng Siang, in a newspaper interview earlier this week (8).

It would appear that in the next 25 years, unless effective steps are taken to reverse the trend, that Singapore medicine will progressively take on the features of the USA where specialists do provide primary care, and where a large proportion of medical care is provided by specialists. Such a development is favoured by the increasing availability of specialists. A rigid control of the access to specialist doctors is only possible in a system where control of the funding of medical care is taken away from the consumer-patient. In a free-market situation where the patient pays directly, control is unenforceable and the situation can only be influenced by the factor of differential costing of consultations, and by persuasion that preliminary screening by a family practitioner is both medically and financially more cost-effective.

#### **THE DOCTOR-PATIENT RELATIONSHIP**

Undoubtedly the patient of the future will be better informed medically, more demanding and more assertive. His standard of expectations will be high and knowledge of what can be performed in advanced medical centres abroad will lead to demands being made on doctors to fulfil these expectations in Singapore. These demands will accelerate the importation of the latest medical technology and expertise.

There is a need for the Singapore doctor to continue to be committed to play a major role in patient education, which should include not only topics in medicine, but should emphasise personal responsibility in health care. This should be on a continuing basis.

From time to time sensationalistic statements and articles require to be quickly put in perspective by the medical profession, as was recently done when AIDS hit the news media.

More and more the Singapore doctor realises the need to explain the patient's medical condition to him in terms that he can understand. In the future it will be standard for a doctor to inform his patient of his diagnosis, however bad — even a terrible diagnosis like widespread cancer, and we can put behind us forever the need to conceal such diagnoses. In my view this leads to a healthier doctor — patient relationship.

In years to come as choices open up regarding methods of diagnosis and treatment, it becomes important for the doctor to seek the cooperation of the patient in the management of the illness. Some patients can understand less; some will still leave the decision to his doctor; others will seek tremendous amounts of detailed information before coming to a decision. The doctor in the future must acquire the skill, the perception and the patience to deal with this aspect of clinical management.

There will often be the need for a second opinion. In cases where the balance of advantages between choices seem small, the preferred course may be to seek a second medical opinion. Again the sensitive doctor will try to control the situation by bringing up the idea first.

There are also broad issues relating to life which will continue to trouble the human conscience. These relate to brain death and organ transplantation, to the right of life of the human embryo and artificial conception, to surrogate motherhood and ownership of stored gametocytes and so on.

Education of the public on the facts and the possibilities introduced by science is urgently needed. The medical profession must actively seek the cooperative responsibility of society in drawing up speedy guidelines for human behaviour and action in these fields, and these guidelines will require periodic review. Only by reaching such vital decisions in partnership with society can the medical profession set the seal in the future for its own integration within society and avoid alienation as a profession.

To conclude it is as necessary to build up and sustain a healthy medical profession — society relationship as it is a healthy doctor-patient relationship; the capacity to do so requires skills that are only slowly acquired over years of clinical practice. These skills must be seen to be as important to acquire as the purely medical, clinical, surgical or technical skill. The use of these skills will reemphasise the human face of medicine in a future that threatens to become dominated by far reaching medico-technological advances.

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