

General Medicine—Revisited, Rejuvenated, Revitalised and Reemphasised

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Abstract

Introduction: The swing of the pendulum towards medical subspecialties, which are mainly organ-based, was inevitable. Over 30 years ago, this problem surfaced in the United States (US). The fragmentation of medicine had its advantages and disadvantages. However, as lifespan lengthens and there are more elderly sick with multiorgan dysfunction and failure, the patient is asking for the one doctor who can manage him as a whole patient rather than the ten specialists, each focused on one body part. **Methods:** Revisit—A search of the recent literature revealed that changes are underway in the US and the United Kingdom (UK). **Results:** Rejuvenate—Diagnosis Related Group (DRG) funding for inpatients based on the length of stay means referrals to specialists (if any) should be concurrent rather than consecutive. This, in turn, means the general physician should assess the whole patient from the outset and be in charge of the management plan. Also, the patient prefers this to being passed from one specialist to another. Revitalised—We are short of doctors in Singapore and if one patient could be properly managed by fewer specialists, then we will need fewer specialists in Singapore. Their role is to manage the more difficult patients, rather than every patient that happens to have a problem within that organ specialty. Internists should be allowed to have a wider training in Singapore, with dual accreditation in general medicine and another medical speciality made available from this year onwards. The duration of this training will be 5 years. Reemphasised—A full chair in general medicine was established at Harvard Medical School in 2000. The UK Royal Colleges of Physicians are revamping their advanced specialty training programme to include more time in general medicine and the Renaissance School of General Medicine may become a reality. **Conclusion:** Whole patient medicine is what patients want, not medicine in bits and pieces. The general physician has a vital role to play in meeting this need.

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Introduction

“The irresistible swing towards medical specialisation has brought advantages for patients but arguably this has gone too far.”¹ It is time to review the role of general medicine and general physicians in Singapore; with its own unique system of healthcare where patients can see any specialist and subspecialists without a referral letter; where in public institutions, “market forces” play a significant role in determining the salaries of doctors (including specialists) and where insurance companies and health maintenance organisations do not have major impact in the delivery and financing of health services.

Definition

General medicine is not residual medicine; neither is it those parts of medical practice where no specialist/subspecialist sees any interest in pursuing. General physicians are often left to pick up the pieces of patients

after several specialists have rummaged through their organs and declared proudly that they find no fault in them. Yet, the patient remains symptomatic, suffers pain and discomfort and nobody seems to know what is amiss. As Horder puts it, “people are whole units who go wrong as a whole, and do not take kindly to being divided into organ systems.”² Patients need generalist doctors who can put their individual problem in context and provide continuity.

In the United States (US), all physicians in their training as specialists qualify for the American Board of Internal Medicine (ABIM). They could stop their formal training at that point, with or without board certification. Are they then recognised as general physicians? Or, as most do, proceed with further training and get accreditation in one of the “organ” specialties or infectious diseases, or endocrinology, etc (where the definition of the organ is less clear-cut). Some go even further and pass another examination to obtain dual and triple certifications.

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In the United Kingdom (UK), physicians need the MRCP (UK) to enter specialist training. The MRCP (UK) is not equivalent to the ABIM, but is considered an entry qualification to specialty training. Because much of healthcare delivery is through the National Health Service (NHS), all physicians (with few exceptions) need to manage patients admitted as medical emergencies/urgencies, e.g. patients with hyperglycaemia, coma, drug overdose and undifferentiated health problems. Thus, for some time now, their physicians have had a strong base in general medicine but also another specialty. So they are called general physicians with special interest in whatever specialty, e.g. respiratory medicine, endocrinology, etc. Doctors chose according to their interests without too much consideration of remuneration since in the NHS, there is no marked differentiation in pay based solely on the specialty.

Thus, from the above descriptions, it would appear that the physician in the UK is more adept at general medicine than his American counterpart. The latter passed through general medicine en route to a more lucrative “organ” specialty practice. In the UK, on the other hand, the physician has to practise general medicine to be able to handle the cases while on take but still has time to practise his organ specialty. It is therefore heartening to note that in the US, the Society of General Internal Medicine and the Clerkship Directors in Internal Medicine have reconstructed a new curriculum for the internal medicine core clerkship, emphasising the learning of basic generalist competencies.³ However, the number of physicians who wish to do full-time organ specialty is increasing and for good reasons.

Specialties and Subspecialties

There is no doubt that with the huge body of knowledge in medicine, there is no possibility of one person knowing everything. Therefore, to ensure safe practice based on good medical expertise and experience, it is necessary to subdivide the body of medicine into smaller parts so that the full impact of medical science can benefit human kind. This way, each doctor “specialises” in a particular piece of the whole body of knowledge and strives to advance the frontier within this “specialty” further and further into the unknown. Such doctors are essential to the progress of medical science and for the ultimate benefit of society. As the saying goes, these doctors will know and practise more and more of less and less—more focused in a narrower and narrower tunnel or silo.

This fragmentation, at an ever-increasing pace, will lead medicine into pieces. It is already happening—split and split and split yet again—and it will continue to be so. What we need therefore is a counterbalancing force against this split. Somebody must try to initiate more fusion amidst all

this splitting. Among the medical specialists, this somebody in my view is the general physician.

A Dinosaur?

As an analogy, let us consider an optic cable with many fibres. At the start several centuries back when medicine broke away from witchcraft, all these fibres were together. Over time, these fibres, still within the single cable of medicine in general, differentiated into surgery, orthopaedics, paediatrics, obstetrics & gynaecology and medicine—the 5 mainstream disciplines of house officer training. Then came more fibres within this cable, e.g. psychiatry, anaesthesia, radiology, etc. Then within each of these fibres as they advanced into the unknown, they split up—especially so in medicine and surgery—but before long, so too with the others. So, today, we recognise that a surgeon is distinct from a physician by way of training and practice. So, within the cable, there now is a point where the surgical and medical fibres diverge and it is no longer feasible for a single doctor to practice both general medicine and general surgery at the specialist level.

With the medical fibre, there are splits into its 18 or 32 specialties and again, it is not possible for a single doctor to practise any 2 or 3 of these at the specialist level. Some are still trying but it is a losing battle. The general physician’s contribution is that he still holds onto these 18 or 32 specialties in addition to his one medical fibre. He is cognisant of what is happening and advancing in these specialties and practises as much of what is practical in his setting but always conscious that at a certain point, he should refer the patient on to a specialist physician colleague. This happens because the medical specialist in that organ has the equipment (stents, controlled expensive antibiotics or drugs) he does not have or was trained to use, or the set up, e.g. coronary care unit or stroke unit, is outside his control and the patient stands to immensely benefit by being in that setting. On the other hand, the general physician, in keeping up to date, will add to his skills and knowledge whatever he can practise (with training when necessary) even though it started/originated from one of the 18 or 32 specialties. In this way, the general physician holds the 18 or 32 fibres within the larger single medical fibre, and does not allow the 18 or 32 fibres to widely separate out so that they are beyond his reach and view. He knows what is happening out there although he may not be the one actually delivering that service, but he knows when to refer and who to refer to.

Another important aspect of general physician practice is to handle patients with multiorgan, multisystem illness, which if each specialist was to contribute would mean 10 or more specialists looking after that patient with no one in charge. His role is to rationalise treatment, coordinate

activities and management plans and communicate with the patient/relatives to ensure “whole patient medicine” is delivered. He may have to do this across physician boundaries into surgical, orthopaedic and psychiatric disciplines, rather than be confined to crossing just the 18 to 32 medical specialty boundaries.

Therefore, the general physician is not a dinosaur to be. He will have a more difficult time keeping up with the subdivisions of medicine. He will have to read multiple journals, join multiple specialist societies/associations and attend lectures and talks given by different specialists, just to remain relevant in his calling. But the upside is that he can manage most conditions in the population and multiple conditions in a single patient, without having the patient see multiple specialists. More importantly, he will interact and communicate frequently with the patient (and relatives) as well as with the organ specialists if need be.

The value add of the organ specialist will then be the management of difficult, severely compromised patients of that organ with high powered and maybe expensive equipment, drugs and technology. Difficulty in this context means the disease is difficult to manage, rather than a difficult, overbearing patient. Hence, a patient with heart failure could be managed by a family physician, but if that patient has multiple illnesses, the general physician could take over, especially if hospital care is needed. The organ specialist's greatest contribution in this scenario is to say that after a 2D echocardiography of the heart, the ejection fraction is so low that he must manage the patient and prepare him/her for a heart transplant—likewise for the renal physician and other specialists. In this way, the highly-trained specialist would not waste his resources managing the simpler cases, which have no need for his attention. With clinical practice guidelines and pathways, more can be done by doctors without referral higher up.

Rejuvenate

Without patients, there is no need for doctors. But one patient does not need 10 specialists. He would prefer a lesser number for obvious reasons. Yet, not many choose to do general medicine. Why? As far back as 1987, in the US, a marked shift in interest was noted among young doctors, from specialties involved primarily with direct patient care to those involved primarily with technology.⁴ More of the best students chose orthopaedics, ophthalmology, anaesthesiology, radiology and the surgical subspecialties. This extremely alarming shift from internal medicine toward the technical and procedural disciplines had one good reason. Internal medicine involves cognitive activities, i.e. talking to patients, listening to patients and in general, thinking about the patient's problems. Such activities represent extremely hard work with much

emotional involvement. The reward for this hard work is relatively low pay—and in the US at that time, it meant less than half that of a doctor trained in procedurally or technically oriented areas of medicine.

The clarion call for more general physician comes from patients. They would like to see as few doctors as possible and preferably the one they see is able to handle all the problems they have. Appropriate referrals are of course appreciated, but their gripe is that one doctor passes the problem and the patient from one doctor to another and no one doctor seems able to answer their queries to their satisfaction. After an emergency admission into hospital, they dislike being referred likewise from one doctor to another, day after day. They feel it most when different doctors or groups of doctors start communicating with them about the different body parts that have gone wrong but no one is able or prepared to tell them what is wrong with the whole person. Finally, they become confused with so many medications, each prescribed by separate doctors for different and perhaps appropriate indications but when combined and taken in total, is too much to swallow and too costly. Of course, there may be drug interactions neither doctor nor patient is aware of, much less interactions with traditional herbs and medicine. So their cry is crystal clear. They want someone to be in charge and advise them accordingly regarding their health problems. The older they are, the more acute their problems, as the elderly are usually plagued by multiple diseases with multiple organ dysfunction.

The other impetus for general physician expertise is the presence of DRG funding in Singapore.

If all the problems are addressed simultaneously instead of by consecutive referrals, a patient's length of stay in hospital would be shortened. Whichever organ specialists whose skills are needed should provide their inputs within 1 to 2 days of admission. The general physician, together with the patient (and relatives), should then be clear what the total management plan is and proceed accordingly. Also, requisite blood tests are drawn through a single venepuncture rather than subjecting the patient to multiple pricks after each specialist has had his/her say.

Revitalise—Dual Accreditation

Today, public statements made in Singapore tell of the sorry state of the doctor manpower shortage. If therefore one general physician can handle a patient with multiple problems (with appropriate inputs from organ specialists), it would make for common sense to let him do so, instead of having 10 or more organ specialists each trying to manage the patient by focusing on the organ of their expertise. The cost may also be very much less to the patient and the country.

Of course, I stress again, the general physician should refer patients back to primary care soonest possible. The patient should as far as possible be in the community, cared for by the community and contributing to the community. The acute hospital episode remains an unfortunate occurrence in a patient's health history, preventable if possible. After the acuity is over, the patient must go back to the community. The medication list should be of essential drugs only, and the number of drugs the minimum required. This would help with patient compliance and minimise drug interactions. Many patients have expressed their gratitude that there is such a specialist as the general physician to look into these issues on their behalf.

If training of the pure general physician is arduous and there be insufficient of them, the next best solution is akin to what exists in the UK today. Physicians are trained in general medicine and an organ specialty as well.

In Singapore's context, this is called dual accreditation and was started this year. What it means is that a physician can decide, after completion of Basic Specialty Training and at the outset of Advanced Specialty Training (AST), to have two accreditations recognised by the Specialist Accreditation Board (SAB) of the Ministry of Health. He applies for accreditation in both general medicine and another specialty, and undergoes two interviews, one by the Specialist Training Committee (STC) in internal medicine and another by the STC of a specialty. If successful, he begins a 5-year AST, instead of a 6-year programme (if we were just to add the 3-year stand-alone programme in each.) The first 2 years of training are in general medicine under the supervision of the internal medicine STC. The third year is common to both internal medicine and the specialty, at the end of which he sits for the exit assessment conducted by the internal medicine STC. The fourth and fifth years of AST are guided by the second specialty's STC, at the end of which he sits for the exit assessment by this STC. His dual accreditation can be registered with the SAB, the first in internal medicine and the second in the other specialty 2 years later. For practical purposes, once he/she has been successfully exited in internal medicine, he is eligible for an Associate Consultant post in general medicine and is a specialist in his own right. Two years later, he will also be a specialist in the chosen specialty. Thus, we would have succeeded in Singapore in having a breed of specialist physicians dually certified to practise.

Re-emphasised

In the US, for nearly two decades, training programmes in internal medicine have produced more subspecialists than generalists.^{5,6} It is acknowledged that 50% of graduates of the training programme in internal medicine will have to choose careers as generalists.^{7,8} This statement was again

made in 1993,⁹ and in 2000, Harvard Medical School endowed its first chair in General Medicine¹⁰ to underscore the importance of the generalist. This new post is the first of Harvard's 229 named medical professorships to recognise a field which many US doctors have laboured for over three decades to establish as an antidote to the fragmentation of modern medicine.

Doctors followed the trail of money in subspecialties which, through the years, have become narrower. It is recognised that compared to the newly formed specialties such as orthopaedics, ophthalmology and radiology, where there is an extremely high rate of compensation per unit of time—compensation tied to procedures such as operations and other diagnostic and therapeutic manipulations—general medicine may be less appealing to the young doctor. The doctor-patient relationship is less strong and may be non-existent. After all, few of us can even recognise our colleagues in their masks and gowns. There is relatively less emotional involvement since contact with a patient occurs episodically and often only once. If serious complications of procedures develop, the patient is usually turned over to the care of an internist. So the general physician is there to help both his colleagues and the patient. As medicine and technology become more advanced and more of the elderly are being made to undergo procedures with higher risks, there is more reason for the general physicians to be there when needed.

In the United Kingdom, plans are underway to re-emphasise the need for general medicine in the Advanced Physicians Training programme. In their proposed 5-year programme, the first and fifth years are to be devoted to general medicine (including acute takes) with the middle 3 years focused on the specialty. Also included in this new programme is a compulsory posting in geriatric medicine (which is general medicine in the elderly), considered a necessity as the population ages and lifespan increases. It may be that the age of patients considered as geriatrics will be lifted into the eighties and beyond. I foresee that if lifespan is 130 years, then perhaps middle age would last till 80 or 100 years old. However, we should await the formal document of the Royal Colleges of Physicians on this topic before elaborating (personal communication—Griffin G. St George's Hospital Medical School, UK).

Conclusion

Sub-specialisation and super-specialisation is the way forward as science advances and medicine follows suit. To patients who stand to benefit when failed organs are replaced by transplants, the technology to do so has tremendous benefits and is life-saving. We need doctors who are able to deliver such care.

As multiple organs become dysfunctional and then fail eventually, does it mean that several specialists are needed to care for one patient? Should not one be in overall charge—the general in medicine—whose forte and emphasis is whole patient medicine? Forces on the socio-economic scene and within society are already focusing on the need for more general physicians. In particular, the patient is not prepared to be viewed as one with disease in different organs but rather as a person ill at ease with problems in multiple organs (his disease stems from different organs' dysfunction and they are all inter-related). As such, he would seek out the care from the one who delivers "whole patient medicine" by coordinating and orchestrating the care of all body parts. Perhaps, the Renaissance School of General Medicine would help push this along.¹¹ At the postgraduate level, the Renaissance School will offer advanced specialist training in generalism to keep generalists firmly based on "whole patient medicine," not medicine in bits and pieces.

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