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Some personal thoughts on the education of doctors

As a rule differing but little in natural endowments and early training from others who are given the advantages of a higher education, a doctor is nevertheless expected to combine in one person the attributes of scientist, healer, priest and prophet. JA Ryle 1948

Let's start with the scientist. We patients often have five questions when we consult a doctor. What is wrong? Why is it wrong? What can be done? What should be done? And what can I expect? The main role of the doctor in the health care team is to answer the first two questions, in other words to make the diagnosis. Get that wrong and the patient suffers no matter how good and devoted the team caring for you. As a doctor I have seen this happen and myself have failed to remember Oliver Cromwell's maxim always to consider the possibility that you may be wrong, (and be prepared to seek advice from others). A diagnosis may and usually should be founded on biological science but it has other dimensions if it is to be really useful. It needs to take account of the patient's life experience or narrative, their mental as well as their physical health, and their social circumstances. Many years ago I saw a 3 year old boy with rectal bleeding. He had a tear in skin around his anus, an anal fissure, which was painful and bled especially when he opened his bowels. So we had a diagnosis but not a complete diagnosis. He was constipated. The constipation was caused by him avoiding opening his bowels. This was because the family had an outside toilet and the cistern leaked, he got wet and avoided going. The treatment, which was hugely successful, was to get him his own umbrella. Perhaps more importantly the commonest causes of recurrent abdominal pain sufficient to keep a child away from school are emotional not physical and cannot be diagnosed by computers. However a profound understanding, not just knowledge, of biological science is a vital purpose of a medical education. Learning to learn is vital for it will all change over a medical lifetime. I remember I gave a lecture on the subject of children's kidney diseases when I retired and pointed out that nothing I discussed did I know when I became a consultant 30 years previously.

But what else from the early years of a medical education which will of course continue all through the doctors career. We never cease to be a medical students. In these early years we have to learn about ourselves, our strengths or weaknesses and about our fellow human beings. It used to be said by a famous secretary of St Thomas's medical school that a medical school was simply a safe place to spend your time until you were old enough to be a doctor. This is why I think it is an advantage for the early years of a medical education to be spent in a multi faculty environment with access to the humanities as well as the sciences. An alternative of course is to study sciences or the arts or a mixture for three years at university before you go to medical school. Usually the undergraduate medical course is five or six years, the extra year being spent in a deep study of a particular topic and this deep learning is invaluable in learning how to learn. This is a long time but it needs to be

remembered that the first three years are not full-time. A graduate entry system to medical school from a variety of undergraduate courses usually leads to graduation after a further four years. Whilst there is understandable interest in seeking ways to reduce the length of undergraduate medical education I don't think this is possible or desirable if doctors are to receive the foundation education that they need to practice over their lifetime the sort of medicine that patients require. I think this view is probably shared around the world.

I do think however that we should look critically about how we are pursuing postgraduate education and whether this could be both shortened and improved. All doctors now work in multidisciplinary teams but the nature of what they do differs widely as do their roles and responsibility in their teams. Not only that but these roles change hugely over a career. Interests change but so does capacity and experience. I remember my mentor when I was a young paediatrician and he was arguably the most experienced paediatrician in the country pointing out that whilst technical skills may diminish with time and try as you might some new science may be difficult to assimilate, clinical experience simply grows. As they say "trust young barbers and old doctors". This may be surprisingly relevant nowadays. Over my lifetime hospital doctors have become more specialised. Without doubt modern medicine is hugely successful, many people like me are now alive with conditions that would have been fatal with the knowledge that existed when I qualified. But over 70% of health care funding is on chronic conditions that affect over 40% of the population, many are elderly and have more than one chronic condition. Forty per cent are on 5 or more prescription medicines, maybe given for more than one condition. The problem is that as you become more specialised you know more and more about less and less. Inevitably a patient then has to see more doctors and the risk is that they will be on more medicines some of which may interact poorly. The essence of good chronic disease management is to have a care navigator, a general physician who can help you manage the whole process safely and efficiently. Of course accurate diagnosis requires access to diagnostic tests but we now have much better, more sophisticated tests which require specialist interpretation based on experience. All tests produce false positive results and if you are not careful you can go through a process where you see more and more specialists that carry out more and more tests and where harm results and costs mount.

So what has this got to do with postgraduate education? We need to determine what services are required by the NHS and then how to train and educate doctors to provide them. Most people are treated out of hospitals. This is what they want and it is safer and more efficient. Holland has excellent primary care and general practice, thus the hospitals have lower bed hospital occupancy rates and are safer. I have observed that in Holland it is difficult to get into hospital and easier to get out whereas for us the reverse seems to be the case! A general practitioner is a general physician and the ideal care navigator for those with chronic illnesses or complex care needs. A charismatic innovative Professor of General Practice, Marshall Marinker, years ago wrote;

The traditional division of labour between general practitioners and hospital based specialists has resulted in the evolution of two quite distinct diagnostic tasks. That of the specialist is to reduce uncertainty, to explore possibility, and to marginalise error. That of the general practitioner is to mediate between the predicament of the individual and the potential of biomedical science: it is to tolerate uncertainty, to explore probability, and to marginalise danger.

She or he needs access to specialist help in the community especially from geriatricians and paediatricians and access to diagnostic tests. Both can now be provided through the community hubs that are being opened around the country. The GP can also provide that personal continuity, or relationship practice, that has been shown to improve outcomes, not least through the research of another professor of general practice, Denis Pereira Gray.

So having worked out the clinical service doctors need to provide for the NHS we can begin to think about how post graduate education needs to deliver. We need to recognise that as well as general and specialist physicians we do need many other sorts of doctors, laboratory and clinical researchers, public health doctors, doctors who work in administration and regulation both inside and outside the NHS. The doctor at qualification may not know where they want to go or how they want to end up and almost certainly will fulfil many roles in their careers. As they move to new roles they should benefit from previous experience not least from what they have learnt from patients and about people. Remember the task “to cure sometimes, to relieve often and to comfort always.” Also as Marianne Rigge of the College of Health once remarked of evidence based medicine important though it is; *“Half our patients do not seem to have evidence based illnesses”*

I suggest the first need after qualification is to get more clinical experience, to learn what it means to take clinical responsibility and to work in a multi-disciplinary team. This was and I think should still be the purpose of the first foundation year or pre-registration post in my day. I think the need for a second such year needs to be re-examined in the context of the overall training need to eventually become a senior member of a specialist team in hospital or in primary care.

The next stage is specialist training which for paediatrics in Europe is 5 years both for general paediatrics and for a paediatric speciality such as paediatric nephrology which is what I used to practice. It is over twice as long in the UK. Remember that during this period the doctor is member of a clinical team contributing to the care of patients and taking clinical responsibility but never alone. Indeed you are never alone and even when I became a consultant I still felt able and did phone colleagues for advice, Even if you are highly specialised, as I was as a professor of paediatric nephrology, I still felt able to look after children with general problems with support as necessary. Some years ago I carried out a review of children’s services in the south of England and a computer expert commented at a public meeting *“I don’t understand you doctors, I am a jack of all trades and master of one!”* As a general observation I think the NHS needs more generalists outside hospital and more specialists who maintain a general perspective inside as well.

So where have we got to? I think we need much more flexibility in our model of specialist training in the UK. We need to recognise doctors change roles within and between specialities as they grow older and their skills and interests change; they need to be able to *ladder across* both between specialities and within, so that their previous experience and the skills acquired are taken into account as they re-train. We need to accept the notion of *just in time training*. The purpose of specialist training is not to learn everything you need to know before you retire but what you need to know as part as a team now to do your job, bearing in mind that you will go on learning each day until you retire. The length of training needs to be re-examined. An attempt to do this was made in 2017 by a team lead by Professor David Greenaway (The Shape of Training Report [Securing the future of excellent patient care](#)) and needs to be revisited. This report makes many of the same points as this essay. Work force issues are a concern in NHS staffing and the problem of how long it takes to train a doctors is one of the issues. We need to think again about this and be prepared to learn from our colleagues in Europe who do provide excellent care for their patients as many of us know because we have had the privilege of working with them.

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