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Editorial Comment

Did you skip the lectures?

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Medical school was a part of my life I will never forget. It opened my eyes to loads of new and exciting disciplines as well as catalysing personal development. However, I don't remember the economics lectures when I was at medical school. I was a fairly conscientious student – so it probably was not a part of the curriculum. I certainly remember the anatomy, physiology, pharmacology, etc, etc. We all take it for granted that such topics need to be understood in order to underpin the clinical practice of all physicians. But we are all now expected to practice within defined (and often enforced) cost-effectiveness strategies. Do medical graduates really understand the concepts behind pharmaco-economics? How does this all fit with the Hippocratic principles of dealing with each individual patient to the best of our ability – which implies we should not be so concerned with overall population based health budgets.

Those of us who choose public health medicine, health economics or health services research as a post-graduate career obviously do have the additional in-depth training required to properly consider cost-effectiveness assessments in the context of novel therapeutic interventions. This is just like training in any other sub-discipline of medicine. So, just in the same way as a cancer patient seeks advice from an oncologist, we should be looking to the trained pharmaco-economists to guide us through this complex topic. To the non-expert the jargon and conclusions from studies can be very difficult to assimilate – would you expect non-oncologists to be able to pick up all the complexity and nuances in a large trial of cancer therapy? However, one of the fundamental problems is that the non-expert (at least in economics) prescriber is often the person charged with explaining cost-effectiveness to patients with the condition in question.

Interventions that are expensive will bring all of these considerations to the fore. Oncologists often use interventions which are of marginal benefits, may only be effective in some subsets of patients, have attendant toxicity, and are perceived to be extremely expensive. Just to make it worse, it is the practising oncologist (not the public health doctors or policy makers) who have to explain in face-to-face consultation with a patient why the intervention they seek is not available because it is considered not to be cost-effective. It is easy to see how this type of consultation can be emotionally charged and subvert all doctor–patient trust that might exist. There is some evidence that oncologists actually avoid these difficult discussions by not mentioning a therapy that is unavailable in public practice – even though the clinician may be convinced of *benefit* (note: not *cost*-benefit) and it might be available in private practice. In a health care system that has a public/private mix it is easy to see how this can and does lead to inequalities where those who can afford it or are insured get access to agents that are considered not *cost*-effective by regulatory authorities. I don't think many oncologists would be tempted to use an agent which they felt to be ineffective – no matter if it was a public or private patient.

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So how many oncologists truly understand the pharmaco-economics literature in the depth that would allow them to confidently discuss this with a patient who was very keen to receive some novel intervention? These consultations are long, difficult and can be confrontational. They are also quite abstract to the individuals involved. It is all very well claiming that X amount of QALY is worth Y amount of money, but how do we value each individual's life span or QALY. Perhaps more importantly – how much does the individual patient value a QALY for themselves?

Pharmaco-economics is a young and developing discipline. It will be clear to the reader of the articles in this issue of *EJC* that there are a variety of methodologies which can be applied. The conclusions of health economic analyses can be influenced by the methodology chosen and by the assumptions used to populate the model. As yet, there is no consensus as to which methodology is optimal. We should not be too critical of this state of affairs since there is also a fair degree of controversy as to the methods we use in everyday practice (to measure toxicity and response, for instance). This leads to some interesting problems in real life.

Drug companies are now encouraged to have prospective pharmaco-economic studies attached to the big randomised trials they use for registration purposes. However, these are usually multinational and therefore pass the boundaries of different healthcare systems in which costs can be very different. A good example being the fee that is charged in some countries (but not others) by the oncologist for intravenous administration of a drug. So how do we draw comprehensive conclusions from such studies?

In addition, since these studies are financed and sponsored by a pharmaceutical company, the results might be viewed by some as biased in favour of the sponsored product. So in some countries the regulatory authorities then commission 'independent' cost-effectiveness studies – but often using the same original data. It is obvious that if these come to a different conclusion from the companies' own analyses there is vigorous debate as to which we should believe. To make it a bit worse, many European nations are now developing processes to perform such analyses. In the UK the NICE organisation is primarily responsible for this function for novel therapies. The processes in different countries are not all the same and it is to be expected that conclusions may be different. So we have a recipe for cross border inequality even within the European Union states. One way out of this dilemma would be for us to agree (in the same way we have a common EU licensing authority) to have a European agency that would assess cost-effectiveness across all our nations.

What about those lectures? How many medical schools formally teach pharmaco-economics to undergraduates? Should we bring this into the traditional curriculum? Or should we leave it in the hands of experts?

The articles in this edition of *EJC* were commissioned from a range of acknowledged experts in this discipline. I am sure the uninitiated will learn from them. Those who think they understand will have some of the complexities and limitations of cost-effectiveness analyses highlighted. Despite 'skipping the lectures' I now find this a fascinating area of research – which although in its infancy has growing influence on healthcare policy setting around the globe.