Health Economics SICS Report

Firstly, thank you again to the Scottish Intensive Care Society for the award of the postgraduate bursary and the opportunity to gain a qualification in Health Economics.

Economic analyses are now an absolute necessity when submitting new drugs or health technologies for approval. No management meeting will pass without a mention about "efficiency savings". A quick Medline search of "cost effectiveness" will show tens of thousands of papers containing that term. Add in cost utility or cost benefit and it would be significantly more. The ability to critically appraise these analyses in my opinion is an important skill to have. Put more eloquently by the economist Joan Robinson in 1955 "The purpose of studying economics is not to acquire a set of ready-made answers to economic questions, but to learn how to avoid being deceived by economists".

Take as an example the CESAR trial in which the economic analysis claimed ECMO to be cost effective intervention. To those not familiar with economics the cost per quality adjusted life year (QALY) does seem to show cost effectiveness. However, a closer look at the very thorough economic study suggests that given the very short time horizon the result is difficult to accept as being accurate. I know this now because of the course I have just completed

The course in question is the Postgraduate Certificate in Health Economics at the University of Aberdeen. The course runs from September through April and consists of 4 modules making up 60 credits. Each module runs for 10 weeks and each had a 2 day seminar in Edinburgh available to UK students. Other than the 2 seminars the work was carried out completely online using the University of Aberdeen portal. The materials for reading were released on a weekly basis and each week had a MCQ test attached. These tests were for personal assessment and were not graded.

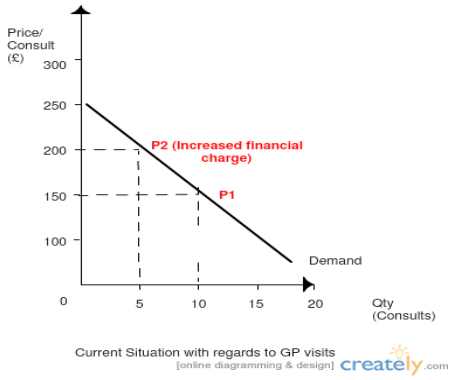
The first module is the "Introduction to economics and health economics". This module was designed as an introduction for those with no previous economic knowledge. Most of the weekly theory came from a single text, unsurprisingly entitled "Introduction to Health Economics" and was available in electronic form via the portal. For anyone who may read this and think about doing the course I would recommend buying the texts as the electronic versions of the books were not always a great copy. The remainder of the reading material came from economic papers published in the literature.

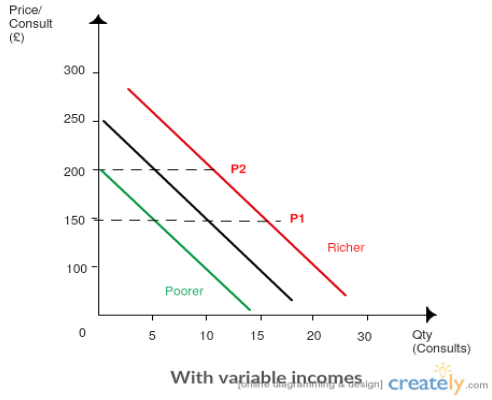
The opening module addressed the basic concepts of supply and demand as well as introducing the concept of the "market". This was very different from anything I had previously learned and took a while to get to grips with. This material was very interesting which made it easier but the main component of every module for me was the 2 day seminar. The seminars were held in the Apex Grassmarket hotel in Edinburgh. They started at 1pm on the Thursday running through until 8pm that evening and then continuing on the Friday from 1pm – 4pm. Chris Spoor, a health economist and lecturer from Leeds was there for each of the seminars as well as the Aberdeen lecturer responsible for the module. Approx 6-8 people attended these seminars and the days were excellent. The lecturers were enthusiastic and combined presentations with group work allowing the reading material to be tied together. Without this I would have found the course to be far more

difficult. This module's exam was a combination of a 10 question MCQ and 4 short questions requiring 200-300 words. An example of a question asked is:

"Illustrate using demand curves, how the introduction of a financial charge for consulting a general practitioner might affect people who are poorer compared to those who are richer."

This question combines the ideas of supply and demand with that of inequality..





The theory would suggest that those who are poorer would normally seek less healthcare at any cost than those who are more wealthy. If price increases it will mean that more people will be priced out of the market. Both the richer and poorer populations will demand less – basic market theory.

This however is very simplified and doesn't take in to consideration the idea of 'elasticity of demand' i.e. how much supply or demand will change based on cost. If GP visits are price inelastic then it doesn't matter how much you raise the cost by, the demand will be significantly less affected. The opposite is true of positive price elasticity. Questions and theory like this made up module one.

Modules 2 and 3 were both about economic evaluation. One module focused on the principles and frameworks whilst the other dealt with its applications and policy. This is really where the 'health' component came in to the equation. Healthcare does not meet the criteria required to be called a market and these factors complicate how the economic theories apply.

In principles and framework module we learned how to measure and value both costs and benefits. The quality adjusted life year was introduced and we learned about the different types of cost analyses that were generally carried out. The ways in which utility is measured and assessed was also introduced and we read about the Standard Gamble and Time-Trade off methods of utility measurement. Learning how to critically appraise economic papers was also part of this module. The assignment was 3 x 600 word short answer questions which were significantly more difficult than the first module.

The modules continued to become more difficult with the applications and policy module where we were introduced to the ways that economic data can be gathered. We learned how economic trials could be incorporated in to RCTs in order to get real time costing data and identified benefits or failing this how data could be gathered from economic modeling. A very difficult topic with the

assignment this time being 2 x 1200 word essays. One of the essay questions I answered this time round was

> "How would you go about developing a decision model to conduct an economic evaluation of a new treatment for a chronic disease? What type of model would you choose and why, what data would you require and how would you go about obtaining it?"

I found the final module on Health Care Systems and Policy a little easier than 2 and 3. This module's focus was on the failure of the concept of a "market" in healthcare. We learned about thinking of the patient as a consumer, about how insurance and national health services work, how waiting lists are formed based on economic theory and how doctors can encourage supplier induced demand. This module was not specific to the NHS and instead allowed a broader learning about other health care systems and payment structures. Health care financing as well as equity and equality completed this final module. The final assignment was a 2000 word essay. I chose to answer

"Contrast waiting lists (or times) and charges (or co-payments) as a means of reducing inappropriate demand for health care. Use theory and empirical evidence."

I found this PGCert exceptionally useful and have many ideas about how I can use it. In the first instance I have now started the MSc in Health Economics which I should complete by 2019. I have ideas to look at the cost effectiveness of intensive care and I am also very interested in what individuals would be 'willing to pay' for ICU, particularly survivors of ICU. Willingness to pay exercises give an overall idea how people value an intervention and a comparison between the doctors delivering the service, healthy individuals and survivors of ICU may provide a different perspective on ICU "value". This is an initial idea and as I work through the MSc I will no doubt have others. I have already been asked by a colleague in the anaesthetic department to help out on an economic analysis for their follow up paper. Their original paper was published in the Lancet so this is another exciting opportunity. I am also working with health economists at health improvement Scotland to assess the costs incurred by ICU survivors in the year post hospital discharge and compare this to those in a post ICU rehabilitation clinic cohort.

It is reasonably difficulty to compress my experience and express my enthusiasm for this subject in a written report but I hope this has been a helpful insight in to the year I spent doing the PGCert. My feeling now, as it was when I applied, is that the ability to carry out economic analysis, think about efficiency from an economic perspective and critique ongoing economic analysis is going to be a very useful skill and I look forward to utilizing these skills as they develop in the near future.

Thanks again

Michael McLaughlin