

# Vascular Risk Assessment

## Service Economics

### Introduction

I know that there are some Secretaries who are sceptical about toolkits or models and some that are too trusting of them. So let's first talk through what they are and why we use them.

Toolkits allow you to gather together all the information we have on an issue and organise it usefully. What they can't do in the complex world of multiparty negotiation and a competitive market is provide you with an automatic answer to questions about the volume and price of a service.

From an economist's perspective, there is normally some iteration in a market until a competitive equilibrium is reached. Players respond to market signals – profit opportunities, shortages, price falls etc - until a stable equilibrium is reached. This comes about naturally because of each individual's response to the signals. In our world this takes the form of annual negotiations, although we may see some changes because of the pressure for longer contracting periods and the increase in competition. It seems sensible to me to go into those negotiations as well prepared as possible and that is what the model is for.

A number of you have been to our commissioning service workshops where we talked about pricing and costing from a theoretical perspective. Today is focussed on vascular risk so I plan to step through the model we have for vascular in some detail. We can illustrate some principles as we go through but the main objective is to make you sufficiently familiar with the model to be able to use it in anger.

### Structure

There are five main parts to our model:

1. Flowcharts
2. Volume estimate
3. Value and price
4. Costs
5. Financial performance

The flowcharts are designed to make sure we have identified all steps in organising and delivering the service.

"Volume" is where we establish how big the market is for our contractors and whether it is likely to grow or not.

"Price and value" is where we look around to gather information about any active and potential competitors and the value of the service to the commissioner.

"Costs" is where we establish what it will cost contractors to deliver the service. The emphasis here is on completeness.

"Financial performance" contains various ways of summarising the impact of the service on each contractor's business.

### Flowcharts

So let's start with the flowcharts. There are two of these shown on Sheets 1 and 2.

The first is aimed at summarising the main steps undertaken by a contractor in organising a service that has been negotiated for him by the LPC. It is the framework of clinical governance, training and reporting.

The second sets out the delivery of the service to the patient, covering the introduction, tests, evaluation and subsequent advice, and claiming payment. Each step has a space to record the likely time implications in minutes.

The purpose of these is to make sure that there is a common understanding of the service, to give a shape of the service for those that find pictures easier to work with and to form a bridge between the service spec and the cost model.

These aren't linked through to the costing sheets at present but can be seen as doodling pads where you think about the timings involved before giving detailed consideration to staff roles.

## **Volume**

So lets move on to look at the volume estimate. This is shown at the top of Sheet 3. Volume is important because it gives a sense of the scale of the opportunity for each contractor and also because costs are intimately linked to volume.

In their economic assessment the DH looked at the total market size for this service. The approach used is the same as that suggested in our previous commissioning workshops.

- In this case they started with the national population and identified how many of these people were aged between 40 and 74.
- The aim was to check everyone in this group over a five year period which suggested 3m annual checks were required.
- Now a large proportion of these were already being checked because they are being treated for a vascular disorder.
- We then need to make a difficult assumption which is to assess the number of the remainder that are likely to be seen in community pharmacy.
- This will obviously be subject to error and so can form the basis of a sensitivity,
- as can the next assumption we need to make, which is the number of pharmacies participating.
- This allows us to assess the number of checks per week per pharmacy.

You will notice that we have included specific data for Ashton Leigh and Wigan PCT as an illustration. Working through this suggests that each of their participating contractors will do 2-4 checks per week.

- The population data comes from National Statistics; you can follow the link in the Part 3 guidance.
- The percentage receiving treatment figure of 50% is from the DH's national estimate although your local PCT may be looking into its own percentage.
- The figure for the share of CP must be an estimate based on your view of local competition.

As suggested it is a good idea to play with the % going to CP and the number of participating contractors to get a feel for how these numbers impact on the weekly volume for each contractor.

## **Value and price**

So that's one key aspect established. Now lets move on to another – price and value. This stage isn't scientific and doesn't involve complex modelling but is absolutely critical. What it

does involve is research to find out about the market context in which the service will be delivered.

Business is about creating sustainable value. This is available to be shared between the parties involved. Who keeps what depends critically on market power and competition. We have tackled this by posing a series of questions shown on Sheet 3 under the heading "price considerations".

The vascular service must have a value to the commissioning PCT.

- This value can be as simple as hitting mandatory Govt targets
- or could involve allowing a bigger service redesign thus perhaps generating a budget saving
- or from a health economics perspective it could change the cost of the patient over a period of time.
- There is also a wider social value of having a healthier population, paying more taxes etc but that is hard to quantify.

The key thing is to understand the value of what you are proposing to sell to the commissioner.

However we have already concluded that not all checks will be undertaken by our contractors. Assuming they are done at all, they must be delivered by someone acting as a competitor. We have talked earlier about whom these might be. We need to understand as much as we can about their business – even if it is just by inference – to get a handle on their pricing policy. There are three aspects to this.

First we have to consider the relative merits of our offering compared to theirs. To do this you can use a comb chart. List all the relevant aspects of the service e.g. location, opening hours, perception of staff skill, ease of commissioning. We are talking about things consumers will value or in this case both patients and commissioners. You can then go through and assess how the CP offering compared to competitors.

The second aspect is to look at a relative cost position e.g. GPs or private hospitals may have lower costs because they already have nurses conducting services.

Thirdly there are strategic considerations. The test may provide a good hook to attract and lock in potential customers e.g. gyms or within our own field supermarkets.

Once you have gathered your thoughts you will be able to get a sense of CP's ability to compete and to forecast or understand competitors' prices. If we are heavily disadvantaged we may have to accept that this is not for us i.e. could be bad business.

Other pricing considerations are price elasticity and the signals given by the price you demand.

The price PCTs are willing to pay and the price contractors are willing to work for may vary with quantity. This is why we started with assessing volume – to fix a variable if you like.

Marketers talk about perceived quality. For a service a lot of this comes from the perception of the quality of the staff delivering the service, the environment and the "takeaways". Price is also a factor. There are some goods and services where a high price is a sign of quality. Put another way we mustn't devalue the CP brand in the eyes of commissioners by pricing ourselves too cheaply – after all a number of other services may follow this one – unless we need to persuade commissioners to trial CP as a provider.

There is a more general point that you can price high and seek to take as much share of value in the short term, but encourage other entrants or price more moderately in the belief this will discourage others from competing with you and allow you to capture market share.

All this information is helping you assess what price you could ask for e.g. if your service is no better than a competitors then you will find it hard to charge a higher price; alternatively if CP can secure hard to reach but potentially costly patient segments or help with health inequalities then our service may be of a higher value to the PCT and so we can seek to negotiate a higher price.

This is where your local knowledge and networks are vital.

For the sake of illustration let's say that having considered all this you decide that CP can charge £35 per check. In order to decide whether we would want to do them for that price we need to move on to understand the costs of organisation and delivery.

## **Costs**

If I can ask you to turn to Sheet 4.

Those of you who have been to our commissioning seminars will have heard me waffling on about models being an elaborate calculation based on assumptions. They are the raw materials if you like.

Here we have begun with some underpinning assumptions about staff costs because these form the bulk of the total cost. Firstly we have calculated an hourly rate for each type of staff. This is based on their salary but includes National Insurance and pension contributions.

You might also choose to include overheads here. At the risk of complicating things these could be genuine incremental costs e.g. power or security if you have to stay open extra hours or you might argue that the service is sufficiently material to your business to carry some of your general overhead. There is an obvious link here with the PhS contract funding because if the NHS picks up the total costs of operation under the dispensing contract then charging overheads could be inappropriate.

If we just take a moment for reflection here on one of the most important concepts raised in our commissioning seminars; opportunity cost.

- LPCs have to build a case based on their knowledge of their local area. This is inevitably some kind of average and so using a cost based on salary estimates is reasonable.
- However each contractor will make a participation decision based on his own business.
- One key part consideration for him will be scarce resources – labour in this case.
- If he has a quiet business and can easily fit in a number of vascular checks then his marginal cost of labour is zero. The staff are employed and paid anyway.
- However if he has a busy pharmacy and no prospect of securing further hours from current or locum staff then he needs to assess the vascular risk opportunity against his current business.
- If for the sake of argument his pharmacists were making him £50 an hour then this is the cost he should factor in when making his decision.

We now need to move on to look at the costs of setting up a service. I don't want you to get hung up on the specific numbers now although I would be interested in your detailed feedback at a later date. If a cell is yellow then you can enter your own figure. These are for both sterling costs and time. Time is entered in minutes.

First we have to consider the one off set up cost for the service. We have highlighted five here but the model has been configured to allow you to add in a couple of others. You will see that this is a significant fixed cost. It needs to be incurred whether the contractor performs one or a hundred checks. In general the higher the fixed cost the riskier the service. We have included vaccinations as a cash cost but this may vary locally.

We then highlight annual costs including training updates and quality checks e.g. machine calibration. Again we have left space to allow you to add in a couple of others. The quality cost figure comes from the manufacturer of the Cholestec machine.

We then move on to the costs of delivery. You will notice the split of the service elements by staff type. It is also important to include the full cost of any consumables. The £5.70 figure comes from the manufacturer of the Cholestec machine.

For information we have added an analysis of the costs of each consultation here.

The final area of cost to take account of is any investment required. In their preparations for MURs most contractors needed to establish consultation facilities. To undertake vascular checks they may need to purchase suitable technology such as the Cholestec LDX machine.

We have to consider time here. Firstly such investments have a useful life either technologically or economically. Secondly the contract is for a specific duration. In this case we have assumed a three year contract with a machine with a three year life with no residual value. In which case it is appropriate to write the machine off to nil over three years and so the costs should reflect annual depreciation of £350.

## **Financial performance**

The fifth part of our work concerns financial performance. This is where we look at the impact of what we now know on a contractor's business. There are a variety of pages in the model which cover this. The first is Sheet 5. This summarises all we have done so far and on the right hand side shows the annual profit and loss impact of the service. This is what I would like to concentrate on.

We learned on the income page that with our volume estimates and an estimated price of £35 an average contractor's annual income from the service would be £4.5k.

You can see that allowing for the direct costs of delivery – the variable costs – leaves £2.4k pa. This needs to cover the set up costs, the annual costs, depreciation of the investments and the overheads allocated to the service. It does and so the contractor earns a profit of c £750 pa although the figure for year 1 is negative because of the set up costs.

As a project or an investment decision it earns an "Internal Rate of Return" or "IRR" of c23%. As a return on the investment this will be considerably higher than a contractor's cost of capital and indicates the investment should be undertaken. We will go through this in more detail shortly.

Sheet 6 headed Profit Contribution is a more detailed look at this P&L, which expands on the various costs. At the bottom you can see a calculation of the contribution and net profit per check. You will notice that we have shown costs for review of SOP, training refresh etc in years 1 and 3. Year 1 is correct because this is the end of year 1 i.e. a year after the set up costs have been incurred. The Year 3 costs are a bit spurious but could be seen as time to spend on a learning review. We will look into modelling this differently.

The price below which you would never go is shown as c£31.50. This is the level of income that will just cover costs over the three year contract period, ignoring the time value of money which we will come to shortly.

Sheet 7 headed Discount Cash Flow Calculation will need more explanation. It is a more sophisticated decision making tool used in a world of multi year contracts when we need to take account of the "time value of money".

It is better to receive a pound now than in a year's time. This is because of risk – hot topic recently – and inflation. It is possible to look at this issue another way; how much would you want to receive in a year's time to compensate you for not having one pound now. This is called the discount rate.

In our model we have assumed a discount rate of 20% which is very high compared to a cost of capital of c10% but this is new business and each project needs to be assessed on its own merits.

What the DCF model does is set out when cash is spent and received. It then looks at the tax implication of each cash flow. In doing so it looks at what are called capital allowances. This is HMRC's version of depreciation. We have assumed that contractors can take advantage of the 100% year 1 exemption but the model can be adapted if not.

You can see that we have a line showing net cash flow after tax and a second showing the discounted value of this cash-flow, i.e. the value you would trade now for the net cash flow in the future. These are called present values. You can see what a difference taking account of the time value of money makes.

At the bottom of the page is a line called Net Present Value. Look at year 3 – this shows c£300. What this means is that for a three year project the sum of all the discounted cash flows is c£300. As this is greater than zero the project makes money and should be undertaken.

I know this is complicated stuff. It is very useful where there are big and possibly repeated investments made and income is received over a long period of time.

Finally take a quick look at Sheet 8. This is an example of looking at different scenarios to ensure we understand the business we are looking at, particularly its risks.

In this case we have assumed that the number of participating pharmacies could vary from 20 to 65. The prices that give an equivalent level of return to the chosen £35 are shown for different volumes per contractor. Needless to say this highlights to PCTs that fewer contractors would cost them less in total.

## **Conclusion**

So if I can pull all this together, we have designed a model to help you put some parameters around the price you negotiate. It is a guide not a tick-box method of getting to a precise answer. It is vital to spend time looking at the relative value of the service we can provide, competitors activity and contractor costs. These should give you a clue as to the range you have to work with.