

Tracking Change in the Heart Failure Market – The Application of a Novel Scaling Technique to Market and Product Mapping

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1. Introduction

Our need in wanting to track change in the heart failure market arose from the fact that we, along with other companies, would be creating new activity in an area which had previously not seen heavy promotion. We wanted to assess how successful our communication was in helping GPs to form an image of our product and to track this over time. But also we wanted to see how well our communication matched the GP's therapeutic objectives for different patient types. We were, of course, also interested in the images of other products in the market and how well they matched GP's therapeutic objectives. An objective for the future was to see whether as a result of this activity, doctors' perceptions of heart failure and their objectives in treating it were changing over time. Having achieved all this, we would then be able to pace the development of our promotional campaign and make appropriate changes in direction in the future.

2. Objectives of the research

Our market research objectives can be summarised as follows:

- ◆ To track how our product was positioned in heart failure - compared to other products - over time
- ◆ To observe any changes in doctors' treatment objectives in heart failure and how available products relate to these.

3. The research solution

A major concern when thinking about this brief was to be certain that any changes that we measure in how GPs view their treatment objectives and the products available to them are real and not due to sampling variation or changes in other variables.

Sample to sample variation can be avoided through the use of a panel of doctors. The determination of product images suggests scales which can be fixed over time and repeat measurements taken. This leaves the issue of treatment objectives.

Again scales are suggested, rating the importance of various product features in the treatment of heart failure. Unfortunately experience has shown that the doctors' response to this type of scale is that importance depends on the patient.

We therefore have to allow for the patient variable. This is done by allowing the respondent to complete importance scales in the context of treating an individual patient. At this point the debate emerges of whether the respondent selects the patient (or patients) or whether we do. The former has the advantage that the doctor is much more familiar and hence more comfortable with a real patient than with an imaginary one, however well we prepare our patient pen pictures.

There are a number of pros and cons that could be discussed here, but in our case, the need to fix the environment so that we can measure change in attitudes is overriding. We must keep our set of patients constant. Following treatment objectives for a fixed set of real patients is not appropriate as objectives for them may change, and indeed can be expected to do so because the patients' conditions alter. This would lead to an apparent change in attitudes towards the treatment of heart failure that in fact is only a reflection of disease progression. Given our objectives the decision has to be to use a series of patient pen pictures. These should be presented to the panel of GPs at various points in time for them to consider and 'treat'.

In summary our approach to following the heart failure market was to recruit a panel of 75 GPs, and every six months or so to administer a set of scales to each panel member in the context of treating a fixed set of patients.

After discussion with ICI it was decided that six patient profiles could adequately reflect the spectrum of heart failure in general practice but that twenty-six items would be needed to profile products and therapy needs.

Fortunately only nine products needed to be included to cover the majority of prescribing and the therapeutic sub-classes in the market. However conventional agree/disagree and importance scales would in this case still lead to an unacceptably long task for respondents, and perhaps also not sufficiently sensitive to measure change.

Paired comparison scaling was then selected as it allows the size of the task for each respondent to be reduced and also, as every scale is different, helps to maintain interest in the questionnaire.

The whole of the scale is used, unlike with many importance scales leading to a more sensitive measurement. Paired comparison scales also lend themselves to self completion. A typical instruction sheet given to respondents is shown overleaf. This will serve to introduce and illustrate the actual scale sheets used which will be shown later. The respondent has to choose between two items according to which one he thinks most applies to the situation described. We also allow for the options that both apply equally or that neither applies at all.

This approach to scaling came to our attention through its use in identifying training needs by a US based firm of training consultants.

We adapted their methodology to a market research application and conducted a successful pilot study.

Drug comparisons on certain parameters

You will find a different question on each of the following 6 pages. Each question asks you to choose between a pair of drugs which "offers greater" than the other - greater effectiveness, greater suitability, and so on. Below are some examples of how you may respond to a question.

Question : Which drug offers greater suitability for older patients ?

NAVIDREX K

X				
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 ADALAT/nifedipine

x This means that you think 'NAVIDREX K' is **much more suitable** than 'ADALAT/nifedipine'

NAVIDREX K

	X			
--	---	--	--	--

 ADALAT/nifedipine

x This means that you think "NAVIDREX K" is **slightly more suitable** than 'ADALAT/nifedipine'

NAVIDREX K

		X		
--	--	---	--	--

 ADALAT/nifedipine

x This means that you think NAVIDREX K' and 'ADALAT/nifedipine' are **equally** suitable

NAVIDREX K

			X	
--	--	--	---	--

 ADALAT/nifedipine

x This means that you think 'ADALAT/nifedipine' is **slightly more suitable** than "NAVIDREX K"

NAVIDREX K

				X
--	--	--	--	---

 ADALAT/nifedipine

x This means that you think 'ADALAT/nifedipine' is **much more suitable** than NAVIDREX K'

HINTS: Please mark each page in turn, using your best judgement. First impressions are usually better than long considerations. Do not worry if you seem to be inconsistent at times. Please record your answer with a clear Ax@ in one of the spaces. Leave it blank if you think that neither drug is relevant. Mark only one space on each line. Thank you.

This pilot study led to the questionnaire flow that we now use:

1. Review a patient profile and rate the relative suitability of alternative drug therapies.
2. Rate the patient's needs (or doctor's therapy objectives). These will include the communication and image objectives for the new product.
3. Repeat steps 1 and 2 for the remaining patient profiles.
4. Rate drugs on the extent to which they are likely to provide each of the therapy objectives included in the study.

All respondents do not have to 'treat' all patients or evaluate all patients needs. Equally each respondent is not exposed to all possible pairs of products or product attributes. Doing this would result in an exceptionally long questionnaire and is not necessary.

For example, twenty items in the list of product attributes results in a total of 190 possible pairs (2 x 20 x 19). If we assume that ten pairs is a reasonable task, a design is needed that allocates the 190 pairs in blocks of 10 across the sample of doctors so that each attribute is represented an equal

number of times. A similar approach is followed by allocating patient profiles and products resulting in a balanced randomised design.

A complete description of how we allocate scales across the sample of doctors is beyond the scope of this paper.

It is also probably much more informative and interesting to look at the questionnaire used in our heart failure project and how it was developed. We will then give examples of the types of analysis that can be conducted.

4. Questionnaire development

To enable the questionnaire to be developed, we, at ICI, had to provide:-

- a Fixed heart failure patient profiles
- b List of drugs we wanted to monitor
- c List of treatment objectives in heart failure.

By carrying out an analysis of patient history studies and using data that looks specifically at the dynamic part of the market; new, switch and add-on therapy, we were able to determine patient treatment patterns for the diagnosis. We then drew up our six patient descriptions to cover the range of heart failure patients and liaised with Medical Department to ensure that they were realistic.

The drugs we wanted to monitor were much easier to determine and consisted of products we considered to be the main competitors in the future as well as a range of standardly used products from different therapy classes.

The treatment objectives were drawn up from a knowledge of GP's perceptions of heart failure and its treatment derived from extensive qualitative research. They were written to encompass all the main features of our product, including its strengths and weaknesses, as well as all the main features of competitor products.

5. Questionnaire sequence

Each doctor had to look at the patient profiles, choose treatment objectives and the most suitable product(s) for each patient. Let's take Mr Jones as a example to demonstrate the sequence that each doctor had to go through.

Let's take Mr Jones

68 years old
History of angina
Mild heart failure

Drugs:

Nifedipine (angina)
20mg Frusemide
(mild heart failure)

Now: 6 months later
breathless and tired

i.) The doctor had to choose suitable drugs for each patient by using paired comparisons of drugs.

Which drug would you consider to be more appropriate for Mr Jones?

Digoxin	X					Lasin
Innovace				X		Capoten
Burinex K					X	Digoxin
Product X					X	Frumil

ii.) The doctor had to select treatment objectives for each patient by using paired comparisons.

Which consideration is more important in deciding in drug therapy for Mr Jones?

Rapid relief of symptoms			X			Low level of side effects
Use in early stages of HF	X					Established therapy
Low level of side effects	X					Cost effective therapy
Helps patients feel better	X					Improves cardiac function

iii.) Finally, after considering all the patients, the doctor had to match drugs to treatment objectives by using paired comparisons of drugs against treatment objectives.

eg. Which drug is more appropriate for use in early stages of heart failure

Digoxin		X				Frumil
Innovace				X		Capoten
Burinex K	X					Digoxin
Product X			X			Navidrex K
Frumil	X					Burinex K

6. Survey results

After the data has been analysed, we were able to look at the positioning of the products by six different patient types.

Positioning of products by patient types

Mr Jones	Mr Ford	Mr Brown
A1		
	C1	
		C1
		C2
C1	X	A1
C2	C3	C3
		X
C3		C2
A2		A2
X		A3
A3	A2	
	D1	
	A1	
	A3	
D1		
		D1
		B1
B1	B1	

The letters represent different product groups and the numbers different brands within each product group. A very clear pattern emerged with particular groups of products being seen clearly as first choice for some patients and not others. Mrs Ford, for example, was definitely seen as a suitable patient for type C products and product X was viewed to be competing with this type of product. Mr Jones was clearly an A1 patient with the C class of products being considered next and before the other brands of A class products. These results show how our product X was being positioned relative to other products for particular patient types. Our anticipation was that the research would allow us to track changes in positioning over time. We were also monitoring the GP's therapeutic objectives for each patient type, for example, Mrs Smith.

Therapeutic objectives for each patient type

Mrs Smith	%
1. Reduce feeling of tiredness and lethargy	100
2. Reduce breathlessness	99
3. Improve exercise ability enabling patient to do more	98
4. Drug with low level of side effect	95
5. Drug that can be used with many others	94
6. Help patient to feel better	92
7. Improve cardiac function	92
8. Therapy for hypertension and heart failure	90
9. Simple dosage	89
10. Improve mortality	89

For Mrs Smith, the prime objective was to relieve her symptoms of tiredness, lethargy and breathlessness, and enable her to do more. In other words, the GPs were looking for a product to be effective in heart failure without side effects. The rankings of objectives were very different according to the patient type.

We were also given an idea of how well the products matched the different treatment objectives ie. the images of the different products.

Product match to treatment objectives

This is quite a familiar way of looking at product image and can easily be tracked over time.

It clearly shows how strongly one particular product is associated with relieving the symptoms of heart failure quickly and how different the images are for the different products in other therapy classes.

We have now reviewed the paired comparison scaling techniques, the questionnaire design and the data analysis. At this point it seems appropriate to summarise and draw some conclusions.

7. Conclusions

We would like to consider our conclusions from two perspectives - the paired comparison scaling technique, comparing it to alternative approaches to scaling, and then the heart failure project itself and its utility for the client company. First, the paired comparison approach to scaling.

a) The Agency Perspective

There are a number of advantages that occur to us. With the paired comparison approach, the five-point scale really is a five-point scale. This is in marked contrast to many applications of the agree/disagree scale where, for example, attempts at factor analysis are made very difficult, because of a general skew towards one end of the scales. In reality they become two or three point rather than five-point scales. The paired comparison scale seems to be a more sensitive measuring instrument and therefore, more appropriate for identifying change. The scales vary throughout the questionnaire. IN fact, for each respondent, every scale is unique. The respondent is very much less likely to adopt a repetitious lazy approach, and it could be argued that we are modelling the balancing and trade-offs that the doctor goes through when making the prescribing decision.

