Needs-based segmentation: principles and practice

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While the principles of needs or benefit-based market segmentation have been long established, its potential value as a route to a stronger market understanding and ultimately competitive advantage has been largely untapped in pharmaceutical marketing research, with internal process rather than market focus driving market understanding. Many of the tensions around the use of geodemographics for market segmentation in the consumer work are mirrored in the use of classification systems and diagnosis in the pharmaceutical environment. This paper presents the application of needs-based segmentation – market segmentation based on understanding how physicians use perceptions of patient needs to group patients and then use this understanding to make appropriate treatment decisions specific to each patient group. The need to include patient needs in market segmentation is taken into account by considering the consequences of not segmenting the market strategically. The approach is illustrated to show how valuable outputs are generated and how direction may be provided across the brand development process. The potential impact and application of this novel thinking within pharmaceutical companies is reviewed. This paper shows how a benefit-based or needs-based segmentation of the market provides a more potent view of the market, and argue that market segmentation should therefore be fashioned to reflect this.

Facing new challenges?

The global pharmaceutical market has historically enjoyed double-digit growth with sales in the leading 13 markets increasing by 11% in 2001 (10% in 2000 and 9% in 1999) (Darbourne 2002). Analysis of this impressive growth might suggest that current approaches to market understanding have been effective. However, in the past it has been the science that has driven the business. Growth has come from innovation in the treatment of disease, i.e. new treatments for currently untreatable disease or significant improvement in existing treatments.
Innovation slowing down and new markets requiring a different process of definition?

Science-driven innovation, however, appears to be slowing. New drug introductions have been slipping in recent years. Only 35 new active substances were launched in 2001 (Southgate 2002) with recent figures showing that this slowed even further to 28 in the past 12 months (Financial Times). We have seen a number of recent examples of the challenges facing the industry come to bear in high-profile unsuccessful launches (Shimmings 2002). Those drugs that succeed in the struggle to get through clinical trials are faced with tougher regulatory approval processes. The Food and Drug Administration (FDA) requested clarification on at least 21 products in 2001 (Shimmings 2002), many of these requests being for additional data in specific patient populations. Increasing demands by the regulators, which make marginal innovations less attractive in terms of returns, are altering some of our fundamental assumptions about the way we develop and market our products. With the additional focus of payers on cost, the industry is being challenged to become both more effective and more creative in its development and marketing.

Today, product differentiation is key to success. There has been a fundamental switch from ‘sell products we develop’ to ‘develop products we can sell’. For current markets we want the focus to be on value, not cost. By increasing our understanding of market needs and value drivers we can tailor our product offerings to meet those needs. Long-term growth may require increasing access to new markets; however, these markets can be very poorly defined, and in some cases may require a complete rethink on what we believe constitutes disease.

The challenges are indeed greater; more data are required but there is also considerable pressure to reduce the drug development time line. The time in months which drugs spend between Phase I and launch has reduced successively over the previous five-year periods, from 109 months (1986–1990), to 96 months (1991–1995), to 71 months (1996–2000) (Lloyd 2002). The imperatives to get to market may reduce the focus on defining the market segments and the product evidence needed by segment, which is being demanded by the regulatory agencies as a requirement for approval.

How do we develop products in times of slowing levels of innovation, increasing saturation in the major markets and greater potential regulation? We must increase our market understanding.
Segmentation in the pharmaceutical market

The consumer industry has always had customer needs at the top of its agenda, because its products are specifically tailored to meet customer needs. Thus a manufacturer of sports footwear having conducted market research to identify a segment of customers with a distinct set of needs might decide to produce a new training shoe. Once this decision is made, it is quite possible to design, manufacturer and distribute the product within a few short months. If only this were possible in the pharmaceutical industry! Drug development is clearly different. Throughout most of the twentieth century, drugs arose out of a serendipitous process of discovery: compounds were screened for pharmacological activity, then manufacturers looked for patients whom the drugs might benefit. In this new millennium, improved technology allows for better-targeted design, which has meant that patient needs have become a more important driver in drug discovery.

There are other clear differences that apply to pharmaceutical drug development, mainly to do (quite properly) with rules, regulations and restrictions.

- Extensive trial process (from pre-clinical development, through applications for use of drugs in human subjects, through all the clinical phases).
- Applications for marketing.
- Negotiations on trade names, pricing and reimbursement.

All this means that it can take 12–15 years from identification of a new chemical entity in the hands of a scientist to launch of product in the marketplace. The pharmaceutical marketplace is currently facing much change with a variety of external and internal pressures. The impact of these pressures can affect product development adversely in one of two ways: either candidates fail to reach the market or potential value is not realised (Table 1).

The need to demonstrate therapeutic value in specific patient populations links strongly to segmentation: regulators and other gatekeepers now explicitly request that the manufacturer supply specific evidence (by segment) to enable them to make decisions on whether to register new products, whether to reimburse them, and if so, at what level. The UK National Institute for Clinical Excellence judged that this evidence was not sufficient for the anti-influenza product Relenza, which meant that the launch was delayed while trials were conducted in the elderly population in which NICE believed that the drug should (or would) be used, based presumably on the need to reduce the perception of
vulnerability in this group. Payers are looking at the segments in which new products will be used to determine where the product will be positioned in terms of price versus volume. What is not acceptable is a high-price: high-volume combination (Lovett, 2002).

Are pharmaceutical companies using segmentation to its maximum potential?

The perceived value of market segmentation in the pharmaceutical industry has been explored by MacLennan and Mackenzie (2000). As part of a wider survey, senior marketing executives were asked to gauge their view of the role and practice of market segmentation within their company. All these key players recognised the value of strategic segmentation in the pre-launch phase and beyond (Figure 1). However, fewer executives perceived its value at discovery stage and before Phase II. Reasons for this shortfall in perceived value often related to cost issues at a stage when the commercial opportunity had not been guaranteed. In cases where market segmentation had not been conducted before Phase II there was a view that, had this been conducted, then the needs identified would have helped in designing the Phase II trials.

Successful brand development (aka ‘marketing’) depends on a solid understanding of market segmentation. Many would say that effective strategic segmentation lies at the heart of the strategic marketing process; indeed it should be the first step whether the purpose is to develop a portfolio presence in a therapy area, or the development of a specific brand (Figure 2). Later, we will discuss specific examples of the direction and value that market segmentation can add to brand development.

Table 1 Pharmaceutical industry pressures in the new millennium

<table>
<thead>
<tr>
<th>External</th>
<th>Internal</th>
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<tr>
<td>Global consolidation and integration</td>
<td>Lack of critical mass</td>
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<td>Portfolio rationalisation</td>
<td>Need to shorten time to market and peak sales</td>
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<td>Increasing competition</td>
<td>Reduced level of marketing and clinical expertise</td>
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<td>Technological change</td>
<td>Sub-optimal marketing/medical interface</td>
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<td>Government drives to reduce healthcare drug costs</td>
<td>Cutbacks in R&amp;D spend</td>
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<td>Formulary restrictions</td>
<td>Data saturation – poor definition and</td>
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<td>Need to demonstrate therapeutic value in specific patient populations</td>
<td>leverage of critical strategic information</td>
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Source: Pharmaceutical Executive (2000)
Figure 1 Extent to which senior healthcare executives agreed that market segmentation has value at each of five stages of the product life cycle

Source: MacLennan & Mackenzie (2000)

Figure 2 Representation of how market segmentation should provide direction across the whole brand development process, and why it is the key first step
Why needs-based segmentation?

First of all, what is segmentation? Segmentation is a view that not all customers are the same. Thus markets consist of a number of ‘segments’, each segment consisting of ‘homogeneous’ customers. There are two main segmentation approaches: needs-based and characteristics-based. Needs-based segmentation is based on customer needs. It is the process of segmenting the market based on understanding the needs of the end user. This is the understanding that drives product development and brand strategy. It is fundamentally a strategic process (market segmentation), so should come first. By contrast, characteristics-based segmentation is based on the characteristics of the customer and area. It is the process of segmenting customers based on their characteristics, attitudes or behaviour. This process helps drive the development and execution of customer strategy and targeting (which customers should be targeted and how they can be accessed). This is a more tactical process and comes later.

McDonald (1999) defined a market segment as ‘a group of customers or consumers who share the same or similar needs’. McDonald and Dunbar (1995) define market segmentation as ‘the process of splitting customers into different groups or segments within which customers have similar characteristics and similar needs; by doing this, each one can be targeted and reached with a distinct marketing mix’. In this paper we focus on needs-based segmentation, which is the process of understanding how physicians use perceptions of patient needs to group patients, and then use this understanding to make appropriate treatment decisions specific to the patient group.

Responsiveness to patient needs

A key driver in the value of needs-based segmentation is that physicians are becoming ever more exposed to pressures surrounding specific patient need. Most of us would argue that physicians have always treated the patient as an individual. However, there is a chorus of consensus from healthcare consultants, government health departments and gatekeeper agencies concerning the importance of the patient’s viewpoint and that everyone involved in healthcare must be more responsive to this.

‘Vital Signs’, a report by the Boston Consulting Group on the US market (Lovich et al. 2001) discusses how patients are now more knowledgeable about their health and are more actively involved in their care, which means that physicians are changing how they work with them, and that pharmaceutical companies must address this. A report by McKinsey &
Company (Nelson et al. 2001) reviews the underlying drivers of change in patient healthcare expectations, including increasing education levels, growing availability (both channels of communication and the content they carry), mounting choice (and effectiveness) of treatments, better expectation of well-being, escalating patient activism, declining cohort of easily satisfied elderly, and diminishing deference to authority.

Agencies are emphasising that excellence for patients means just that – ‘what the individual patient feels is best for them’ – and urge bodies to embed the changes in their own organisation (Campbell Davis 2001). Everyone is using the same language: ‘through customers’ eyes’ (Novartis awareness campaign), ‘seeing through patient’s eyes’ (Fillingham 2001) and ‘the patient’s view’ (Homa 2001).

What do needs-based segments look like?

Mitchell (1996) reviews the role of what he calls ‘requirement-based’ segmentation and concludes: ‘it demands a programme of research to develop better ways of measuring and characterising needs/requirements and linking them to identifiable and accessible targets.’ In this section, we discuss the outputs of such a research programme, and in the following section we discuss the methodology. Figure 3 overleaf illustrates how needs-based segments are typically differentiated in the pharmaceutical market. Figure 3 lists the patient needs and characteristics that are typically seen to differentiate the total patient population into discrete segments. In this case three segments are suggested. Imagine, for a therapy area you are familiar with, how different patient types would measure up against this broad spectrum of ‘attributes’.

As well as the distinct differences in need (both in their nature and extent), these populations may also be differentiated in terms of unmet needs (i.e. measures of dissatisfaction). Each segment shows differences in the actual treatments typically used, the number of key treatments used in a segment, which links into an assessment of whether competition is high or low in a segment. There may be differences in perceived worth of a segment, and in other indicators such as healthcare resource utilisation. A segment may be characterised by patients with dominant disease characteristics, personal characteristics or behaviours. The relative size of segments may also be measured.

Physicians consider the richness of perceived drivers of patient need: support, motivation, life challenges, emotional drive, attitudes to side-
effects and preferred quality-of-life trade-offs, ability to cope and function, and issues of denial vs. insight into illness.

**How do we access needs-based segments?**

We have reviewed what the needs-based segments typically look like, but how do we access these segments? What is needed is a research process designed to develop creative market segmentation. Below, we describe some of the market research techniques that may be used to uncover these segments. Essentially this is an iterative and interactive process employing high-level qualitative methodologies to uncover a competitively advantageous framework of market understanding, to be profiled in ever more detailed manner as strategic options are isolated.

The overall process is summarised in Figure 4. This rolling research process is designed to bridge experience from the customers (the physicians and their patients) with the wealth of knowledge inside the company.
This process starts with learning from the experience of people working within the company, capturing initially their knowledge and expectations of the approach. A range of individuals is identified for inclusion in an internal survey. Individuals are selected to represent the full range of functional roles involved in the drug development process, typically discovery scientists, portfolio planning, pharmacology, medical department, brand management, health outcomes, regulatory affairs, pricing strategy and business analysis. Individual interviews are designed to explore experiences and views on a series of critical issues, from the perspective of the individual’s functional experience, but also insight into issues beyond their traditional area of responsibility. Often, the most revealing ‘out-of-the-box’ creative thinking and challenge comes from individuals working at a distance, presumably because they are less constrained by day-to-day imperatives. Issues covered in this consultation process typically include:

- Competitive environment information (both medical and marketing)
- Regulatory/registration insight
- Value, pricing and reimbursement issues
- Portfolio and product development questions
- Key information gaps
- Marketplace opportunities/threats
- Company and product strengths/weaknesses
- Critical capability or capacity issues
- Possible segmentation options.

At some stage, some or all of these individuals are brought together in a creative workshop (1 to 1½ days). Often these workshops are timed to follow some of the early physician research so that this can be discussed. The purpose of the creative workshop is to:

- Build on internal survey already conducted.
- Provide a common understanding, rationale and value of the overall programme.
- Develop the internal team so that each side (of any lingering medical–marketing divide) can ‘get real’ and come (closer) to consensus.
- Provide an appreciation of the process of developing needs-based segments in anticipation of the segmentation study being conducted with customers, so that team members can appreciate the ways in which the segments are uncovered and how intuitive this can be.
- Collect key inputs to market analysis:
  - Measures of opportunity
  - Perceived competition, present and future
  - Anticipated future trends.
- Build common understanding and buy in to the possibilities of looking at the marketplace in a new way by considering a segmentation which covers a range of presentations of disease.

Physicians are trained to practise medicine in ways which do not allow a great deal of room for creativity. This is not to say that physicians have no freedom to be good doctors or that they do not treat the patient as an individual, but they do have to practise under many constraints (treatment guidelines, formulary restrictions and so on) often based on disease and patient characteristics. Because of this, it is ambitious to sit physicians down and ask them to think of new segments based on patient need. Furthermore, many patient needs are hidden, latent or emotional and are evaluated almost subconsciously by physicians during the consultation with the patient, and as such are rather more implicit then explicit in nature. For all these reasons, patient needs may be difficult to
conceptualise and articulate. Therefore, a creative approach is needed to draw these out. Finally, any process must not constrain thinking; there should be no preconceptions: we are looking to collect all the raw data.

Research starts with a first wave of (‘exploratory’) focus groups. Because it is important to stimulate ideas and uncover creativity, respondents are screened for creativity. Focus groups involve the use of flipcharts, breakout and feedback sessions, and projective techniques to stimulate lateral thinking and creativity. Groups often involve mixed specialties (e.g. primary care, psychiatry and neurology) so that a balanced multidisciplinary view of patient needs results.

The physicians work through a series of exercises and discussions initially building detailed patient histories, then developing the specific issues important to patients and key factors that impact on management and treatment, as well as the most critical aspects that drive the treatment decisions. Through this process of investigation we are seeking to identify a series of possible dimensions that drive difference in the perception of patient need, the assumption being that if patients are located at different points on these dimensions then their needs are different and, where they coexist, the needs are common.

Physicians cover a range of patient types to attain a representative spread (e.g. based on age, severity of condition, associated level of functioning). Where physicians identify a need across more than one group then potential differences in the amount or type of that need are explored. The moderator must drill down to uncover the needs which are often hidden (assumed) or not explicitly stated. Thus if physicians talk about ‘once a day’ being a critical need, this has to be challenged. Why is once a day a need for this patient? The answer may be better compliance, but then we can dig deeper. Why better compliance? This question may uncover two different needs, one related to more convenience (e.g. a key need in a business traveller) and one related to less chance of forgetting (e.g. in an older patient with memory lapses). Thus, both of these patients have distinct needs, although both needs feed back through better compliance to a solution which is once a day.

Having gained a deep understanding of the elements that play a role in driving differences in need, these elements can then be reviewed to allow sensible links, groupings and associations to be made leading us to our hypothesis, a series of possible patient segments described within the context of a framework of drivers of need as illustrated below.

Referring back to Figure 4, there are important additional inputs. A key group to interview is patients themselves. Using these research techniques,
we have not yet seen a situation where patients reveal a set of needs that have not been identified by physicians, but there may be a first time! Apart from validating the physician research, what the patient research does deliver is a richness of patient need from the ultimate customer which helps underpin the value of needs-based segmentation. Direct patient research allows us to develop an in-depth understanding of factors that are important to patients, feelings and attitudes towards their disease, and perceptions towards treatment options. Interviewing real patients may be used to test whether the physician-derived segments are realistic and workable.

Interviews with key opinion leaders can also help focus the research process. Having conducted multiple focus groups across different countries, the analysis process is designed to aggregate all the inputs, and leads to a process where segmentation hypothesis is formulated. Subsequent waves of research seek to confirm and fine-tune the hypothesis to a point where it has been endorsed as valid.

In the final stage the revised segmentation model is discussed in face-to-face (‘validation’) interviews where the understanding and intuitive acceptance of the segments is checked, as well as the relative sizes of segments, and (for each segment) detailed differences between segments.

**Impact of needs-based segmentation**

An initial hypothesis in proposing this approach is that *patient needs will cut across traditional segmentation* which tends to be characteristics-based (e.g. centred around pathology or severity).

Analysis of the research indeed shows how needs-based segmentation can be independent of pathology. Figure 5 illustrates this. Thus it is possible that the needs of some breast cancer patients are often more similar to the needs of, say, gastric cancer patients (than to their sister breast cancer patients). Careful analysis shows that by and large physicians do treat the patient rather than the pathology. It is helpful then that market segmentation be conducted to reflect this truth.

**Providing direction across the development process**

The marketing research process must support the decision-making needed for all the business development steps discussed below. Good market segmentation underpins this process. Thereafter, every research question should be approached with segments in mind. The benefit offered by
needs-based segmentation is something creative within the marketplace and something that is centred very much around patient needs as interpreted by the managing physicians.

Let us consider how this approach is able to generate valuable actionable outputs and provide direction to every aspect of the brand development process (as summarised in Figure 2).

**Improving direction to discovery**

The understanding of market segmentation offered by needs-based segments is able to direct efforts by focusing on areas of potential determined by factors uncovered in the research process such as commercial size, unmet need, current dissatisfaction with existing treatments, and assessment of the competitive set that operates in each segment. The process allows opportunities to be identified in segments that may not have been exploited previously.

**Adding value to portfolio planning**

Understanding of needs-based segments can help direct priority candidate(s) for development. Consider the situation in Figure 6.
One can imagine how this might direct portfolio planning as follows: consider discontinuing product B due to portfolio overlap, discontinue product C due to lack of fit with any segment, increase in-licence efforts to fill a gap and address the needs of the ‘latent’ segment which shows considerable commercial opportunity.

**Inputs to Phase I and II trial design**

Insight into segments provided by physicians encourages the building of trials in the most valuable segments. Needs-based segmentation identifies those patient groups where ‘market-relevant’ evidence must be provided to address patient (and physician) needs. Consider the finding ‘What we thought was an improvement for “dependent” patients was not appropriate for “heartsink” patients’. The process allows strengths and weaknesses of the product to be evaluated by segment.

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The critical step is to determine which portfolio products can be best targeted to meet the needs of which segment. The products match (to a greater or lesser extent, based on the number of arrowheads) the needs of the distinct segments.

The variety of products link

In this example, products D and E link well to more than one segment, product C appears not to link into any segment, whereas the needs of the ‘latent’ segment appear not to be served by any of the existing portfolio products (an opportunity for in-licensing?).

**Figure 6 Bridging from segments to portfolio management**
Positioning strategy

Strategic positioning options can be better formulated based on understanding how the market operates at the level of patient need. Being able to identify a unique position for the drug will maximise product uptake in key segments. Successful positioning depends on strategies that are likely to improve competitiveness. Positioning options can be developed which drive specific marketing programmes for each segment to allow effective and efficient use of resources. Imagine the finding ‘Segmentation uncovered several positioning possibilities relating to customer need which had not been previously considered to be that relevant to the therapy area. These were brought forward and researched in the positioning studies.’

Phase III trial design

Effective trial design comes from continued evaluation of relevant critical end-points to evidence a target profile which is able to clearly meet the needs of the customer (for patient read physician, payer, regulator). Assessment of patient segments highlights where the product shows most promise (e.g. successful product differentiation). Input into the shape of the Phase III programme can come from specific evidence thresholds needed (by segment) for launch, and uncovering creative opportunities within Phase III trials to build in competitive advantage. Consider the situation where needs-based segmentation identifies a segment of patients of significant size, which has distinct needs, where there was dissatisfaction with current options, but for which the product seemed ideally suited. Imagine however that no patients of this type had been included in the product’s core registration trials. This highlights the need for the manufacturer to revisit the trial programme and conduct an additional trial in this previously unrecognised patient population.

Execution of positioning

Better checking of basic assumptions and understanding about customers needs will inevitably lead to improved communications. Research into a short-list of possible positionings will reveal where physicians want additional data to accept and underpin the company’s favoured positioning. If necessary the company can review trials (e.g. proposed investigator-led studies), and prioritise some trials into which these critical end-points could be incorporated.
Launch decisions

Input into the rigorous assessment of target profile by segment will isolate the opportunities and threats needed for the internal audit. Potential forecast thresholds and associated resource commitments can also be built by segment. It is possible that needs-based segmentation research may suggest a substantial marketing platform and sales potential, over and above that suggested by traditional segmentation. A previously unconsidered patient population may lead to reassessment of regulatory strategy and to a supplemental registration filing.

Value, pricing and reimbursement

Pricing and reimbursement decisions will depend on the segments in which the product will be launched, and appropriate assessments and argumentations prepared.

How does needs-based segmentation fit with other segmentation research?

Typically market segmentation studies are quantitative studies looking at diagnosis or symptom-based segments. The needs-based segmentation research discussed here is smaller sample research (it may be used to supplement these very large studies) and offers something different. It provides a fundamentally more market-led understanding on which development decisions can be made.

Conclusion

Segmentation is becoming ever more important in the pharmaceutical industry. Healthcare agencies (government, regulators, payers) all recognise the value of market segmentation for decision-making concerning new product registration, inclusion in best-practice guidelines, reimbursement and pricing. Among the manufacturers there is acceptance that market segmentation should occur earlier, to drive market understanding and provide a foundation for more efficient brand development.

The form of market segmentation based on identifying patients’ needs is particularly valuable given the ever-increasing importance of the patient perspective in healthcare. Needs-based segments provide a fundamental understanding of what product portfolio opportunities exist, how trials should be conducted with even better patient-relevant end-points, and
how a successful brand development strategy can be designed and implemented. The needs-based segments may be developed initially through qualitative research. This process of building understanding adds high value and the early involvement in this process facilitates buy-in across pharmaceutical development teams.

References

http://members.netscapeonline.co.uk/johnrichardtate/Expectations%20of%20the%202020%20UK%