The Pharmaceuticals practice at Charles River Associates provides consulting services to leading firms in the pharmaceutical, biotechnology, and medical device industries across North America, Western Europe, Japan, and Australia. Our emphasis is new product launch strategy, product pricing and contracting, and strategic responses to new market entrants. We specialize in the economics of business strategy, and our recommendations are based on quantitative analyses using game theory, marketing science, finance, and econometrics.

For further information on how the Pharmaceuticals practice at CRA could assist your company, please contact Dr. Gregory K. Bell, Pharmaceuticals Practice Leader, at (617) 425-3357 or by email at gbell@crai.com.
Optimal Pricing Strategies

SYSTEMATICALLY IDENTIFYING PRICE-SENSITIVE SEGMENTS AND EVALUATING THIRD-PARTY CONTRACTS CAN HELP COMPANIES MAXIMIZE PROFITS.

Pricing has never been more of a key issue for the industry than it is right now. Yet, even with the increased importance of pricing strategies, a lack of focus on critical market factors leads many manufacturers to forego profits or increase their vulnerability to aggressive payers. Aligning pricing and contracting can achieve a sustainable competitive advantage—if product managers objectively assess a product’s clinical benefits and address two key questions:

- Which segments of the market are sensitive to price, and how sensitive are they?
- What are the value and cost of improving formulary and reimbursement status at key customer accounts?
  
In each therapeutic and geographic market, the influence of pricing and contracting varies, requiring a different strategy for optimizing share, revenue, and profit. Despite the uniqueness or complexity of any set of market conditions, economics will dictate the optimal strategy. In certain circumstances, setting a high price and not contracting for managed care formulary access makes sense. In other situations, it would be disastrous. This article demonstrates that assessing the market environment, identifying the costs and bene-
fits of alternative pricing strategies, and striking the right balance between pricing and contracting are critical. (See “Rx Drivers.”)

**The Formulary Factor**
Managed care formularies in the United States and national health system formularies in many other countries confound the price–demand relationship by restricting access to some products in an effort to control costs. In the United States, formulary structures with tiered patient co-payments, prior authorizations, and physician budgets are common. When third-party payers shield patients from the real cost, then pricing is only one of several strategic options available to drive sales. Product managers must apply a different economic framework when price effects are overshadowed by formularies that dominate prescribing decisions. Specifically, they must compare

- the value of each formulary position for increasing share
- the cost of achieving or improving formulary position by offering rebates or other value-added services.

Contracting for preferred formulary status in key customer accounts—the “net price” decision—is a critical element of pricing strategy. Often, it is the contracting tactics that differentiate the product in the market. Pharma companies can use managed care contracting to target strategic customer niches, adapt pricing to reward share performance, align customer objectives through creative win–win contracts, and avoid the deleterious effects of potential price spirals.

**Physicians and Price**
There is considerable debate about whether physicians know or care about the price of the drugs they prescribe. The authors’ research shows that doctors know about prices—especially the relative prices of key products—and that price sometimes influences prescribing decisions. For instance, doctors are more price-sensitive when prescribing for mild to moderate conditions, and they are sensitive to the price of prescriptions for chronic conditions.

Physicians are also more price-conscious when prescribing for patients who must pay the full “out-of-pocket” cost. In some situations, doctors purchase and administer therapies to patients, as with oncology products in the United States or with many traditional prescription medications in Japan. They are usually reimbursed at a fixed amount for the product and its administrative costs; therefore, doctors are often concerned with the spread between the price and the reimbursement rate.

In contrast, physicians are less concerned about price if the patient has an acute condition requiring treatment for a short course of therapy. Even for chronic conditions, if the physician has tried several medications and encountered problems with tolerability or lack of efficacy, he is far more likely to disregard price when faced with a decision for the next course of therapy. Determining how much of the potential market for a product is price-sensitive requires product managers to understand patients in the therapeutic area and the responsiveness of prescribers to price at each decision point: first-line

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**RX DRIVERS**
Factors such as physician preferences, managed care account status, and a product’s safety–efficacy profile affect prescribing decisions and drive sales.
choice, second-line product switch because of lack of efficacy or side-effects, add-on therapy, and so on.

There are also significant differences in prescribing among various kinds of doctors. General practitioners are more likely to begin new patients on less potent prescription medications than are specialists, who generally start patients at higher doses. Similarly, systematic differences exist between the patterns of “heavy prescribers,” who treat a large number of patients, and physicians who treat only a limited number of patients of a specific type. Also, as a result of DTC advertising, patients often have a certain brand in mind, or even a discount coupon, when they see their physician. New research from FDA says that 69 percent of the patients who ask for a specific brand ultimately get what they want.

For price-sensitive patient segments, market research about product demand provides product managers with the basis for optimal pricing strategy. First, they can use market research to determine the demand for therapy at different prices for each physician type and patient segment. That allows them to estimate the market share response to incremental changes in price and competitors’ possible price responses. From demand simulations, product managers can determine the price that provides the highest revenues and profits. That type of analysis, when completed for each physician type and patient segment, provides an aggregate demand profile that combines all segment information to identify the exact price that will maximize profits in price-sensitive segments. (See “Demand Curves” and “Reaction Curves.”

**Managed Care Control**

Reimbursement, which can insulate patients and physicians from the full price of a therapy, is perhaps the most important factor affecting demand for prescription pharmaceuticals. In the United States, roughly 75 percent of the population has prescription benefits covered by third-party payers. And managed care organizations (MCOs) commonly institute a formulary of preferred products to control pharmacy spending. Formularies can block products from reimbursement, specify patient co-payment differentials for brand-name therapies, and require prior authorization for non-preferred drugs.

Consequently, when prescribing for patients with “high control” formularies, physicians generally pay much less for drugs than do patients with “low control” formularies.
more attention to formulary guidelines than to the price of a therapy. When physicians share the responsibility for controlling pharmaceutical costs on a per-patient basis, the influence of formularies is offset and price becomes more important.

Two trends demonstrate the increasing importance of successful contracting strategies for formulary position. First, MCOs are moving toward higher co-payment differentials and more tiers. Second, some plans are exploring percentage-based co-insurance payments in lieu of co-payments. One MCO’s recent formulary reform provides a good example of both trends. The MCO introduced a four-tier formulary in 2001 to differentiate cost-sharing provisions among all therapies, including injectibles, generic therapies, and biotechnology treatments. For the first three tiers, patients face co-payments ranging from $5 to $45; for therapies in the fourth and most expensive tier, patients are responsible for 25 percent of the product cost. Such cost-sharing provisions indirectly influence physician prescribing by causing some patients to request less expensive medicines.

Formulary status and the elements of an MCO benefit plan—patient co-payments, prior authorization requirements, and so forth—have more impact on physician prescribing for MCO patients than price does. Therefore, it is imperative for product managers to identify the MCOs that are most able to affect prescribing through their formularies—those who can “move share” —to understand what drives formulary decisions and to compare the costs and benefits of getting on formulary or improving formulary position. Segmenting accounts by their potential to affect share through benefits structure and formulary control can help apportion contracting resources. (See “Getting the Most From Managed Care.”)

To Contract or Not to Contract?
Determining the value of a managed care formulary position requires product managers to estimate the share increase that can be expected from an improved formulary position. Comparing expected share increases with the cost of improving the formulary position—through rebates or other value-added services—provides a cost–benefit assessment of formulary contracting efforts. (See “Share Loss from Formulary Restrictions,” page 7.) As formulary control increases—because of higher patient co-pays or prior authorization requirements—product share decreases.

Another way of looking at the value of formulary access is to determine the price reduction that would be necessary to offset the share loss resulting from a restrictive formulary position. In one example, with a co-pay increase from $10 to $20, price might need to fall by 35 percent to offset the share loss. In the same scenario, with a $40 co-pay, price would need to fall by 35 percent to offset the share loss relative to a “no restrictions” situation. (See “Price Impact of Formulary Controls,” page 7.)

Contracting strategy boils down to providing rebates, discounts, or other value-added programs in return for improved formulary position—when it makes economic sense. Knowing the “up side” to improvements in formulary position—the expected share increase—defines the break-even point for negotiating formulary position with an MCO. In the previous example, the share impact of moving from third tier with a $40 co-pay to second tier with a $20 co-pay is roughly 10 share points. In that case, a pharma company would be better off walking away from contracting discussions if the MCO required a rebate in excess of the total profit increase associated with a 10 point increase in share. In some cases, leverag-
Product Management

A portfolio of products can increase the bargaining position for formulary placement and reduce the overall rebates required to get on formulary. Identifying the value of formulary status imposes economic discipline on contracting with MCOs; the company should only pay up to the potential value of the improved position. Understanding the trade-off between value and cost is crucial to negotiating a contract. Without it, product managers will miss the mark in targeting accounts for formulary access, overpaying in some or failing to realize the potential of others by not bringing enough to the table. To be successful, product managers must segment customer accounts by plan type (low-control, high-control) and potential (size and growth of the market) and compare the value of formulary access against its costs.

Putting the Pieces Together

Optimal pricing strategy requires understanding the factors—both clinical and economic—that are most critical to prescribing decisions. Product managers must understand:

- patients, physicians, and MCO segments
- the medical conditions for which the product will be used
- how the product stacks up against competitors with regard to key attributes such as efficacy, safety, tolerability, and convenience.

Decision makers must also consider the relative importance of price-sensitive segments. Through research, they can determine whether the product will be used primarily by patients who are more sensitive to price, or in situations where physicians view price as important in prescribing decisions—chronic, mild-moderate severity, first-line, and so forth.

In each segment, the demand for the drug identifies the share to expect at each potential price. Product managers derive the optimal price for maximizing profits directly by aggregating the results from each of those segments.

For patients covered by third-party payers such as MCOs, product managers need to quantify the share potential of improved formulary positions with the payer. For managed care plans in which the formulary has proven effective in moving market share, it may be worth substantial rebates to secure a lower co-pay than competitors have, or to avoid being blocked or disadvantaged in some way by the plan formulary. With reliable data on the value of an improved formulary position, product managers can make informed, economically sound decisions about how much to rebate or discount to optimize profits.

Pricing and contracting strategy go hand-in-hand. By applying a systematic approach to identifying both the optimal price in price-sensitive segments and the value and cost of contracting with key third-party payers, decision makers can maximize profits when faced with complex pricing choices in dynamic markets.

SHARE LOSS FROM FORMULARY RESTRICTIONS

As formularies become more restrictive, companies realize less of the product’s share potential. In this illustration, the share loss ranges from 25 to 35 percent.

![Graph showing share loss from formulary restrictions.](source: Charles River Associates, data disguised from actual project)

PRICE IMPACT OF FORMULARY CONTROL

Product managers would need to drop a therapy’s price substantially to offset the share loss resulting from increasingly restrictive formulary controls.

![Graph showing price impact of formulary control.](source: Charles River Associates, data disguised from actual project)
ABOUT CRA

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