COMPETITION BETWEEN ORIGINAL BRANDS AND GENERICS IN PHARMACEUTICALS: ANALYSIS AND POLICY IMPLICATIONS

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Abstract

This paper will discuss the significant price differences between original pharmaceutical products and generic drugs which continue to exist long after introduction of lower-priced generics. Apparently, uncertainty about generic quality allows the original brand to maintain a superior image and substantial market share, despite intensive competitive activity. The effectiveness of promotion in maintaining substantial market share after patent expiration is illustrated for Librium(R). Existing policies concerning generic drugs are reviewed, and appropriate revisions will be recommended.

Pharmaceutical Promotion

The Structure of the Pharmaceutical Industry

The federal government grants legal monopoly rights through patents. During the 17-year patent period a firm has exclusive use of all benefits derived from the protected product. After patent expiration, competitors may enter the market.

Critics of generic drugs argue that some generic producers have encountered fewer regulations in introducing their drugs than did the original manufacturers. While new drugs must be proven safe and effective, and pass many clinical tests, some generic products obtained market approval by submitting little more than evidence of chemical equivalence of the active ingredient, and compliance with Good Manufacturing Practices (Schwartzman, 1976). Critics claim that the generics may contain different inert ingredients which may lead to different blood absorption rates (bioavailability) and side effects, and that dosage measurements, cleanliness standards, and ingredient quality may vary between manufacturers.

These issues are currently being debated in the Federal Courts (American Pharmacy, 1980). This paper will not deal with the relative safety of generic drugs, but rather the implications of consumer perceptions.

The following terminology will be used for pharmaceutical products: a "branded drug" is patent-protected; a "branded generic" is sold under a non-proprietary name by a firm with its own branded line; a "generic" is a chemically equivalent drug marketed by a firm without a branded line of its own. The generic source may be a major pharmaceutical firm, or a virtually unknown producer.

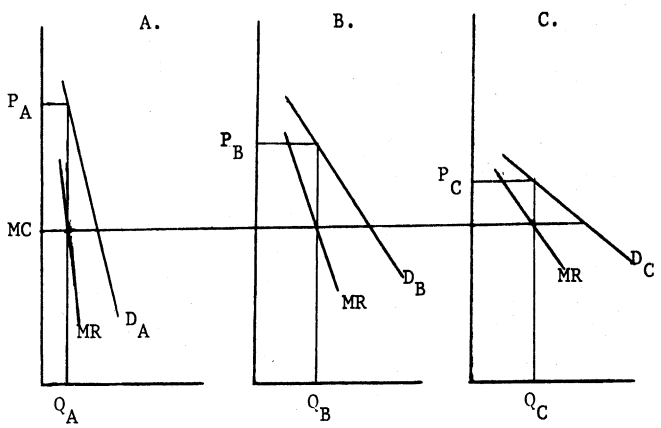
When a drug patent expires, the original firm has several choices: lower the price, to limit competitive entry; maintain existing price and maximize short run profits, while allowing lower-priced generics to enter the market; or intensify brand promotion to combat competitive penetration.

Given an industry with high-priced originals, and a potential proliferation of generics, we might expect that a high elasticity of demand with respect to price would eliminate large price differences. However, differences continue to exist long after competitive entry, and despite enactment of many state substitution laws, and increasing numbers of generically written prescriptions.

One explanation for this is effective promotion by major firms. If the original manufacturer develops a quality image, lower priced generics may enter the market and not pose a sufficient threat to induce price competition (Schwartzman, 1976). This can best be explained by examining the market from a price elasticity perspective, as shown in Figure 1.

FIGURE 1

RELATIVE ELASTICITY AND PRICES



Curve A depicts branded drug purchases when a higher-priced original is preferred over a generic substitute. We observe low elasticity, since this market segment believes there is no close substitute for the original. Curve B illustrates market behavior when a group is willing to take some risk of a generic produced by a well-known manufacturer. Greater price sensitivity is apparent since, presumably, the selection of a generic indicates a desire to purchase at lower prices. Curve C illustrates the segment willing to risk an unbranded generic to purchase at lowest cost. This group has a highly elastic demand curve. Such different market responses allow manufacturers to price differently among these groups, even if marginal cost is the same for all firms.

So the question becomes: "How have original drugs been successfully differentiated from branded and unbranded generics?" This paper will argue that the answer is: "Effective Promotion" by large pharmaceutical firms.

Product Differentiation By Quality Image

Content of current promotional campaigns indicate that pharmaceutical firms are well aware of the quality issue. Original manufacturers stress product quality and superior manufacturing processes.

Branded generics are often developed by a major firm to "round out" the product line in those areas in which it does not already have a patent. They will gain most of the market lost by the original drug after patent expiration, and will generally be priced lower than the original drug. Their producers stress company reputation, product liability coverage, quality control procedures, and lower cost. In addition, they frequently offer discounts on their patented products with generic purchases.

Generic drugs are advertised primarily in trade journals. They utilize mail order and regular distribution channels. The primary goal is overcoming quality objections and assuring the pharmacist of minimal risk.

The purchase decision for a pharmaceutical product involves three parties: physician, pharmacist and patient. Different promotion strategies are used to reach these groups. Manufacturers of brand-name drugs promote to physicians and pharmacists, emphasizing the firm's knowledge of a drug's quality, purity and potential side-effects. Manufacturers of branded generics also promote to these groups, stressing lower price and firm reputation. Generic firms promote mostly to pharmacists and the consumers, stressing chemical equivalence and price advantage.

Marketing to The Physician

In most states, physicians may write prescriptions in three ways: by brand name; by the brand name and an indication that generic substitution is allowed; or by generic name of the drug. Thus, marketing to physicians is extremely important. The patentholder who can convince the physician to prescribe its product has accomplished much toward the long-range goal of gaining and maintaining market share, since the prescriber may completely control brand selection. Patent benefits can be extended if physicians continue brand name prescribing. The lengthy patent period results in association of the drug with the original producer, and this identification persists long after expiration. Drug companies consider this effect a part of the "life cycle" of anticipated economic rewards for the risks of pharmaceutical research (Harrell, 1978). This may be enhanced by legislation prohibiting brand or generic substitution, and by generic names which are more difficult to pronounce and remember than brand names.

Since it is difficult for a physician to acquire extensive knowledge about many drugs, promotion by large pharmaceutical firms is a critical factor in the prescription process. Although the Physicians Desk Reference is the standard prescription reference, it does not provide information about specialized uses, or comparisons between similar drugs (Schwartzman, 1976). Moreover, doctors find it difficult to keep up with new drug knowledge by reading journals. Therefore they rely on major pharmaceutical firms to collect and disseminate new drug information for them. This creates a situation in which they are very receptive to, and influenced by, pharmaceutical promotion.

Since physicians practice many varied specialties, drug firms must carefully target their promotional campaigns. They must coordinate sales representatives, journal advertisements, direct mail offerings, and other promotional elements.

In 1978, 20,000 sales representatives were employed by the pharmaceutical industry at a cost of 60% of total marketing expenditures. They convey information about drugs, and therapeutic alternatives. (Harrell, 1978). Journal advertising, is primarily a supplement to visits by sales representatives. Direct mail, which allows more elaborate explanations and precise targeting is a smaller, but rapidly growing, element in major firm campaigns. Sample drug distribution has also been a common promotion tool.

The manufacturer of a branded generic promotes to the physician through sales representatives, and journal advertisements which stress high quality and lower cost. This can be persuasive because their product line includes their own original branded drugs, and thus enhances the image of the generics.

A 1978 American Druggist survey in 40 states revealed that only 23% of prescriptions received by responding pharmacists were written generically. This is an indication of the effectiveness of brand quality promotion.

Marketing to the Pharmacist

Generic proponents have long claimed that legislation which allowed pharmacists substitution discretion would greatly increase generic use. However, though some form of substitution is allowed in most states, the expected response has not been forthcoming. A 1978 American Druggist survey of pharmacists' attitudes toward substitution revealed that 70% of the respondents supported substitution. However, although 80% of their prescriptions allowed substitution, little more than 20% were actually dispensed generically. When questioned about this discrepancy, 25% believed, that although substitution was allowed, the physician undoubtedly had a good reason for prescribing a particular brand.

Since a pharmacist who substitutes a generic is responsible for providing a drug with equivalent characteristics, manufacturer reputation and liability protection are major considerations in the dispensing decision. According to the survey, the concern most often voiced was over producer reputation; the liability policy offered by the supplier was second. Consequently, branded drugs offer product liability coverage as a purchase incentive.

An additional factor affecting pharmacists' preference for a branded drug is patient consent. A Florida survey (Lambert et.al., 1980) found that consumers who refused generic substitutes had lower income and drug knowledge, and also perceived pharmacists as having less professional training than doctors. Hence, the pharmacist's image becomes an important determinant of consumer choice.

Therefore, we observe that despite existing substitution laws, many physicians continue brand-name prescribing; and pharmacists allowed substitution discretion often dispense brand-name drugs. Both of these behaviors stem from a concern over generic drug quality.

The Case of Librium

Roche, the original manufacturer of chlordiazepoxide, continues to maintain price and market share leadership fifteen years after patent expiration, despite competition from numerous generics. In 1960 the introductory price of 10 mg Librium(R) was $7.00 per hundred. The patent expiration in 1975 resulted in a proliferation of generic offerings. Roche continued to maintain price leadership. By 1979 the price had risen to $9.93, while the average price of chlordiazepoxide was $2.51; and Librium(R) still held a 36% market share.

We will examine the time path of generic acceptance, for chlordiazepoxide, utilizing an American Druggist annual Pharmacists Preferences Survey. Respondents are asked to name their drug of choice for prescriptions allowing generic substitution. Chlordiazepoxide was first included in 1977:

	Price of 100 10 mg. caps.	% of Preference
1. Roche	$8.14	71.0%
2. Smith Kline & French Labs*	4.20	4.8
3. Lederle*	4.49	3.5
4. Zenith	1.56	3.4
5. Parke-Davis*	N.A.	2.9
6. Purepac	2.75	1.8
7. Other (each less than 1%)	-	12.6

* Indicates a branded generic

We note that Roche's Librium(R) had 71% of pharmacists' preferences, and that either this original drug or branded generics were preferred by over 82% of the respondents. This survey also indicated that concern for quality helps develop a strong association between brand name and manufacturer image. When listing their choice for chloridazepoxide, 76.4% of the respondents who specified Librium(R) did so by writing "Roche".

In the 1978 survey, pharmacists' preferences for Librium(R) had declined:

	Price of 100 10 mg. caps.	% of Preferences
1. Roche	$9.45	49.7%
2. Lederle*	4.48	6.1
3. Smith, Kline & French*	3.52	5.7
4. Purepac	2.75	5.2
5. Parke-Davis*	N.A.	4.8
6. Zenith	1.72	3.3
7. Rugby	1.47	3.2
8. Rachelle	2.06	2.0
9. Rexall	N.A.	1.9
10. Spencer Mead	1.30	1.9
11. Other	-	15.3

The 1979 survey revealed a similar trend:

	Price of 100 10 mg. caps.	% of Preferences
1. Roche	$9.95	37.7%
2. Lederle*	3.80	8.5
3. Smith, Kline & French*	3.03	6.7
4. Rugby	1.87	6.0
5. Purepak	2.78	5.8
6. Parke-Davis*	N.A.	4.3
7. United Research	1.40	2.6
8. Other	-	28.4

These surveys show that many pharmacists still prefer the original brand of chlordiapoxide, despite availability of generics from many sources. Apparently Roche elected to maintain price leadership after patent expiration, and was able to retain a substantial market share because effective promotion had achieved a quality product image.

Policy Recommendations

Relative prices should reflect true quality differences. We recommend policies to ensure that relative risk is accurately portrayed to consumers. One way to achieve this is to make available information on safety and risks of branded generics and generic products. Since the patient is dependent on the physician's prescription and to some extent on the pharmacist's advice in the purchase process, all three groups would benefit from additional information.

One approach is to require manufacturer labeling of generic products. Another is to improve the process by which a generic product gains market approval. As previously mentioned, considerable legal controversy still exists on this issue. Once a definitive decision on procedures is reached, pharmacists and physicians may develop more confidence in generic drugs. Perhaps more stringent requirements will reduce the number of generics available. However, increased acceptance and available information from professional sources about those generics remaining, would provide a net benefit to consumers.

But such recommendations are insufficient. Without consumer pressure physicians and pharmacists will not be encouraged to increase generic availability. Since an important factor in brand name prescribing and dispensing is the relative ease of recalling brand names in comparison with generic names, the United States Adopted Names Council has an opportunity to take a more active role in negotiations with manufacturers over the selection of both generic and brand names (Silverman and Lee, 1974).

Revision of state prescription laws must be considered to facilitate physician-pharmacist communication. Some states provide boxes on prescription forms for "dispense as written" or "may substitute generically" to clarify the prescriber's position, and eliminate pharmacist call-backs.

Other policies might include requirements for pharmacists to advise consumers of available substitutes, or the posting of price lists to allow comparison of available equivalents.

One controversial policy, Maximum Allowable Cost (MAC) involves a procedure to force pharmacists to dispense generic drugs when prescriptions are being reimbursed through a government program. The MAC is the lowest cost at which chemically equivalent drugs are generally available, plus a dispensing fee. It is expected to produce downward pressure on prices of multiple-source drugs, by those frims seeking a share of the Medicaid market. However, MAC provisions have raised quality considerations, and have attracted considerable criticism.

Direct mail may be an informational as well as promotional, technique. The Direct Mail/Marketing Association estimates that $137,000,000 in prescriptions were filled by mail in 1978 (Kirkeby, 1980). Increased promotion through this media may help increase consumer awareness of available generics.

Conclusions

The foregoing discussion has concentrated on promotion effectiveness in developing and maintaining quality product image. Consumer perception of lower-priced generics as inferior substitutes for original drugs creates a situation allowing different pricing policies between manufacturers. The recommended policies will help to assure that relative prices reflect true consumer benefit.

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