Information Search and Decision Strategies Among Health Care Consumers

David W. Stewart, Gerald B. Hickson, Srinivasan Ratneshwar, Cornelia Pechmann, and William Altemeier
Vanderbilt University

Abstract

A study of the selection of health care providers for children revealed little systematic search activity among consumers for this high involvement task. Differences were found between users of specialists, pediatricians, and generalists, family and general practitioners. Reasons for the lack of search activity and the presence of the specialist/generalist dichotomy are offered.

Medical practice in the United States has been described as one of the last bulwarks of an individualized, entrepreneurial tradition (Mechanic 1972). But it has been recognized for quite some time now that the physician's approach to medical care and health is dominated by what is known as "technologic imperative" (Fuchs 1968). That is, medical tradition and medical school education—have long emphasized the objective of giving the best care that is technically possible, virtually to the exclusion of most other considerations. Not surprisingly, this has resulted in a supplier or "production" dominated industry with changes in its character coming largely as responses to advances in medical science and technology. While sociologists have drawn attention to this phenomenon and have called for changes that make the medical care system as a whole more responsive to the needs and aspirations of the consumer and the society (Suchman 1963, Mechanic 1968, 1972), it is only in recent years that health care providers have been willing to adopt a consumer orientation. This belated change of outlook may be safely attributed to recent developments in the medical care "market-place". In earlier years, the demand for health care services had spiralled, thanks to a growing population, a larger number of persons in age groups that require more medical attention, increased government funded health coverage and possibly an increased rate of medical care utilization by the average person (Fein 1967, Mechanic 1972). But this picture has drastically changed in the last few years, with a substantial increase on the supply side not being matched by commensurately increased demand, which is in turn partly due to consumer reaction to sharply rising health care costs. Hence as compared to the past, it appears that the future will belong to health care providers who can effectively marry the resources at their disposal to the attitudes and demands of specific segments of consumers (Mitchell & Mitchell 1980).

In the above context, it is worth examining the market for primary health care for children, which is the focus of this paper. Primary child health care is provided by pediatricians, family physicians (FP's), general practitioners (GP's) and mid-level practitioners (physician assistants and nurse practitioners). Pediatricians are estimated to currently cater to about 55% to 60% of the market, while non-physicians provide barely 5%, and that too generally on reference or delegation by physicians FP/GP's are estimated to devote 15% to 30% of their practices to child health care (Budetti 1981), and they may be considered to be a significant source of competition to pediatricians.

During the last decade the total number of practicing pediatricians in the U.S. is estimated to have increased at an average annual rate of about 4% (Burnett & Bell 1978), with the current figure being around 32,000. This number is expected to rise to about 41,000 by 1990. This rapid growth of provider supply is taking place in a period where it is estimated that the total number of children aged 18 years or under in the U.S. population will decline by about 1.5 million between 1975 and 1990, with the result that the number of children per pediatrician is expected to be halved during these years (Budetti 1981). Further, while during the last few years there has been a decline in the number of GP's in active practice, this has been more than compensated for by a sharp increase in the number of family physicians, and the total number of providers in this category is expected to increase at a rate of between 2% to 3% per annum during the current decade. Commenting on the effects already noticeable due to the "squeeze" in primary care, Owens (1983) notes that between 1976 and 1982 both GP/FP's and pediatricians are seeing between 10% to 15% fewer patients per week, they are working less hours and more physicians in both categories are practicing well below capacity. But obviously the worst is yet to come and it is estimated that one out of every four general pediatricians may be surplus by 1990, though there may be some shortages in the subspecialties. Pediatrics is an excellent current example of the effects of physician oversupply.

It is worth mentioning here a couple of other recent trends in the primary health care business where the impact is yet to be felt by pediatricians. First, there has been a boom in walk-in or convenience clinics with well over a thousand of them operational and serving over 12 million patients (Risenberg 1983).

This research was partially funded by the Dean's Fund for Faculty Research of the Owen Graduate School of Management, Vanderbilt University.
The responses from these preliminary interviews were important in their decision making, and whether which was administered to a mail panel of 750 families were used to develop a closed-ended questionnaire a provider, and if so the reasons for the same. And where relevant their findings will be compared with studies in the general area of patient satisfaction in the area of obstetric care. None of these directly addresses the marketing issues related to the services sought to be provided by them.

The present study is part of an on-going project that seeks to empirically investigate some of the above issues. Specifically, we are seeking answers to the following research questions:

- How do consumers search out a primary health care provider?
- How do different consumers perceive the alternatives available to them in terms of different types of providers?
- Are consumers who select different types of providers in fact seeking different (or differentially weighted) sets of benefits?
- Can these consumers be segmented on the basis of demographic or psychological variables?
- What are the marketing implications of the answers to the above questions for the different types of providers?

There have been virtually no published studies in this area in the past. While the literature abounds with studies in the general area of patient satisfaction (see Ware et al 1978 for a comprehensive review), none of these directly addresses the marketing issues highlighted above. However, Glassman & Glassman (1981) have investigated physician selection and patient satisfaction in the area of obstetric care and where relevant their findings will be compared to those of the present authors.

METHOD

We began by conducting open-ended interviews of 70 mothers waiting to see one of seven pediatricians in private practice. They were asked how they first became aware of their child’s HCP, how they investigated their alternatives, what factors were important in their decision making, and whether they had ever left (or seriously considered leaving) a provider, and if so the reasons for the same. The responses from these preliminary interviews were used to develop a closed-ended questionnaire which was administered to a mail panel of 750 families (maintained by the University of Arkansas) in the state of Arkansas. Of the sample, 630 (84%) of the households returned the questionnaire. Out of these, 24% households indicated that they had children less than 18 years of age in the home. 229 (94%) of these families identified a regular child health care provider; 99 a pediatrician, 119 a generalist (GP or FP) and 11 other providers. The results presented in this paper are based on the data collected from these 229 families. In all cases the questionnaires were completed by the mothers who were instructed to answer the questions relating to health care with specific reference to the youngest child living at home with them. The respondents, like members of most mail panels, represent relatively better educated, higher income groups with under-representation of less privileged groups, racial minorities and mobile sections of the society. The generalizability of the results reported in this paper is limited to middle and upper class, stable families.

RESULTS

Detailed examination of the data revealed that the 61 households using the services of FP’s did not significantly differ from the 58 households going to GP’s on any of the variables of interest. This was in line with our expectations since both these categories of HCP’s essentially try to provide comprehensive primary care for all family members as compared to pediatricians who specialize in child care. After verifying the above result, the data for consumers going to FP’s and GP’s was merged for the rest of the analysis so as to represent a segment using the services of a “generalist” which was then compared with the other segment that uses the services of a “specialist” (pediatrician).

1. Provider Loyalty: On an aggregate basis, 60% of the respondents reported using the same HCP for more than 4 years, and 35% of the total respondents reported using the same HCP for more than 8 years. This would indicate on the whole fairly strong loyalty to the provider, subject of course to the bias present in our sample. But our result is consistent with the finding reported by Cartwright (1967) in a study conducted on almost 1400 patients in Britain. Cartwright comments, “...in spite of this somewhat arbitrary method of selection, people do not change their doctor frequently...probably dissatisfied patients do not change their doctor often enough.” (p. 21-22)

Our data further shows that 50% of those using a generalist have been using the same provider for over 8 years as compared to a figure of 27% for those going to a pediatrician; this difference is consistent with our finding in the SES data that shows that families in the latter group have significantly younger children.

2. Profile of the Choice Set: Respondents were asked the number of HCP’s seriously considered before they selected their present provider. Their responses reveal generally limited information search. 38% of all respondents did not consider any alternative providers; another 32% considered just one other alternative provider; the rest considered 3 or more providers. Consumers using a generalist did not differ from consumers using a specialist with respect
to number of providers considered. The SES data did not reveal any significant differences in age/education/income of parents or in the size of the family between consumers carrying out a very limited search and those engaging in a more extensive search. No significant differences were found between the two groups even though one recent survey(Cowens 1983) reports that pediatricians charge on an average about 20% more than GP's/FP's; our finding indicates that there is no particular relationship between the affluence of families and their choice between pediatricians and generalists.

No significant differences were found between the two groups of consumers in terms of size of family, number of years resident in the same state, education of either parent, occupation of either parent and employment status of the male parent. Somewhat unexpectedly there was a significant difference in the employment status of the female parent. Fewer working mothers were present in the group using pediatrics; this result is also consistent with the intuition that some families switch over from a pediatrician to a generalist as the child gets older.

An important finding was that there was no significant difference in annual household income between the two groups even though one recent survey(Cowens 1983) reports that pediatricians charge on an average about 20% more than GP's/FP's; our finding indicates that there is no particular relationship between the affluence of families and their choice between pediatricians and generalists.

5. Factors Considered as Important in Selection of HCP:

Respondents were asked to indicate on a 5-point scale ranging from "Most Important" to "Not Important" the impact of 15 factors(identified from the open-ended interviews) on the selection of their child's HCP.

The following factors were considered to be of more than average importance by consumers in both categories, but with no significant difference between them:

- Recommendation of friend or neighbor
- Personality of provider
- Whether provider explains properly
- Can get appointments quickly

Similarly, the following factors were considered to be of less than average importance, but again with no significant difference between the two groups of consumers:

- Recommendation of other family members
- Provider's office hours
- More than one physician in practice
- Convenient location
- Age of provider
- Whether provider recommends breastfeeding

Significant differences were found between the two groups. Those using a pediatrician tended to mention finding of younger families tending to use pediatrics; this result is also consistent with the intuition that some families switch over from a pediatrician to a generalist as the child gets older.

4. Demographic Differences: In general, few significant differences were found between those using a pediatrician and those going to a generalist in terms of socio-economic status variables. The parents in the former group were significantly younger, with two-thirds of the male parents in this group being 36 years or less in age, while in the case of their counterparts in the latter group, two-thirds were over 36 years. A similar difference was found between the mothers in the two groups. 82% of families going to a pediatrician mentioned that their youngest child was aged 10 years or less, while this was true of only 46% of the families taking the child to a generalist. This obviously supports the previously mentioned finding of younger families tending to use pediatrics; this result is also consistent with the intuition that some families switch over from a pediatrician to a generalist as the child gets older.

No significant differences were found between the two groups of consumers in terms of size of family, number of years resident in the same state, education of either parent, occupation of either parent and employment status of the male parent. Somewhat unexpectedly there was a significant difference in the employment status of the female parent. Fewer working mothers were present in the group using pediatrics; this result is also consistent with the intuition that some families switch over from a pediatrician to a generalist as the child gets older.

An important finding was that there was no significant difference in annual household income between the two groups even though one recent survey(Cowens 1983) reports that pediatricians charge on an average about 20% more than GP's/FP's; our finding indicates that there is no particular relationship between the affluence of families and their choice between pediatricians and generalists.

5. Factors Considered as Important in Selection of HCP:

Respondents were asked to indicate on a 5-point scale ranging from "Most Important" to "Not Important" the impact of 15 factors(identified from the open-ended interviews) on the selection of their child's HCP.

The following factors were considered to be of more than average importance by consumers in both categories, but with no significant difference between them:

- Recommendation of friend or neighbor
- Personality of provider
- Whether provider explains properly
- Can get appointments quickly

Similarly, the following factors were considered to be of less than average importance, but again with no significant difference between the two groups of consumers:

- Recommendation of other family members
- Provider's office hours
- More than one physician in practice
- Convenient location
- Age of provider
- Whether provider recommends breastfeeding

Significant differences were found between the two groups. Those using a pediatrician tended to
rate as more important the recommendation of another physician and whether the physician calls back quickly. Those going to a GP/FP were more concerned about whether the physician could treat all family members and provide pre-natal care, the amount of waiting time, getting prescriptions on the phone and the prices charged by the provider.

A multiple discriminant analysis was conducted, using Wilks' Lambda as the criterion, to check on the power of the above variables to predict the group membership of the individual respondents. The analysis produced a function with six variables as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Standardized Canonical Discriminant Function Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Treats all family members</td>
<td>(+) 0.93</td>
</tr>
<tr>
<td>2. Calls back quickly</td>
<td>(-) 0.51</td>
</tr>
<tr>
<td>3. Prices charged</td>
<td>(+) 0.39</td>
</tr>
<tr>
<td>4. Favors Breastfeeding</td>
<td>(-) 0.35</td>
</tr>
<tr>
<td>5. Recommended by another physician</td>
<td>(-) 0.26</td>
</tr>
<tr>
<td>6. More than one physician in practice</td>
<td>(-) 0.17</td>
</tr>
</tbody>
</table>

The (+) coefficients in the above are those that push the function in favor of GP/FP group membership while the (-) coefficients favor pediatrician group membership. Since the initial sample size was not large enough, a hold-out sample was not available on which to check the accuracy of classification by using the function. But when used on the original data sample itself, the above function correctly predicted the group membership in 81.7% of the cases, which may be considered to be reasonably good in spite of the upward bias (Frank, Massy & Morrison 1965) that may be present when using such a procedure.

6. Causes of Dissatisfaction: Patient satisfaction has often been conceptualized in the health care literature as an independent variable to predict consumer behavior in areas such as over-all use of medical services, choice and utilization of particular health care programs, facilities etc. (Donabedian 1966, Ware et al 1978). Hence the present study sought to gain further insight into the consumers' preferences for particular types of HCP's by first identifying the respondents who had either already changed their child's HCP or were seriously considering leaving their current provider, and then by inquiring into their reasons for dissatisfaction. Thirty-five respondents confirmed having changed their child's HCP and another 49 were seriously considering such a change. These 84 respondents were distributed as 34 in the use-pediatrician group and 50 in the use-generalist group. These families were then asked to indicate the sources of their dissatisfaction from a list of 17 reasons identified in the open-ended personal interviews. The 84 respondents mentioned, in all, 161 reasons out of which 148 were pertinent to provider-consumer interaction.

The following reasons were most often given, ranked by frequency of mention, by those using a pediatrician's services:

- Doctor not interested in child's behavior
- No concern for child
- Child not getting better
- Doctor incompetent: didn't know what he/she was doing

In contrast, these were the most frequent reasons given by those going to a GP/FP:

- Office (clinic) too far away
- Found another MD more convenient
- Staff were rude
- No concern for me

DISCUSSION

Consumers in general appeared to be carrying out a limited search before selecting a HCP, even though it would appear to be obvious that a decision involving the child's health and development should be one of "high involvement". No SES differences were found between those carrying out an extremely limited search and those doing a more extensive search. We speculate that the differences probably lie in psychological variables not investigated in the present study. Our findings with regard to sources of information in choice process are consistent with earlier literature, and in particular the importance of word-of-mouth information was highlighted. It is interesting to note how little change has occurred in the consumer's choice process in the last 30 years in the context of Parsons' (1951) remark that the majority of people choose their physicians "blindly" on the basis of recommendations of friends or neighbors and without any further inquiry! With regard to reference by another physician, one might speculate that in a competitive provider market, obstetrician-gynecologists may prefer to refer the mothers (who use their services) to pediatricians for the health care of the child, to avoid the possibility that the child's HCP may take away the "repeat business" of delivering the next child, which could happen if the HCP were to be a GP/FP.

The present results reinforce the notion that high involvement alone does not produce substantial systematic search behavior. Rather, the results obtained with health care consumers appear consistent with the findings of Purée, Punj, and Stewart (1984) and their suggestion that even high involvement tasks may generate little information search if the consumer does not have the ability to evaluate the information, is distracted or has time constraints, or has repeated the decision process many times. In such cases the consumer may use some simple heuristic for decision making rather than engage in extensive search activity. Among health care consumers the prominent heuristic appears to be the
advice of friends, relatives, and other health care providers.

Consumers who use the two different kinds of providers can be readily segmented on the basis of SES variables. The only significant difference that emerged was in terms of younger families being positively correlated with the use of a pediatrician's services. But here again one can think of at least two alternative explanations for this finding. First, it could be because as parents and children get older, the parent decides that the child no longer requires a "specialist" and thus falls back on GP/FP's.

Our findings with regard to importance of various factors in provider selection, and the reasons for dissatisfaction, probably constitute the most interesting aspects of the data collected in the present study, particularly since they support each other in terms of converging on the differences between the two groups of consumers. While earlier studies such as Deisher et al(1965) have found a somewhat similar set of 'importance factors' in the selection of a pediatrician, and other studies such as Doiplen (1977) have pointed out that the two major aspects of consumer perceptions of satisfaction are access mechanisms and physician conduct, our study is probably the first one to highlight that different groups of consumers who are using different types of primary care providers are in fact seeking somewhat different (or differentially weighted) sets of benefits. While both groups of consumers appear to attach equal importance to the "art of care" (Ware & Snyder 1975, Ware et al 1978, Ware 1981), that is, the physician's "personal" qualities(Nulka et al 1970, 1975), those consumers who use a pediatrician appear to attach more importance to the perceived professional competence ("Quality of care-technical" in Ware et al's terminology) while the consumers who use a generalist seem to be more concerned about the cost and convenience of care. Our finding regarding the importance of the "art of care" to all consumers is consistent with earlier studies such as Korsch et al(1968), Kane(1969), Kasteler et al(1976) and Cartwright(1967). And our finding that consumers who are more concerned about the price(cost of care) are also likely to be more concerned about the convenience of care is consistent with earlier psychometric investigations of patient satisfaction(Nulka et al 1970, 1975) which have grouped these concerns along a common dimension.

The significant difference between the two groups on "the physician should call back quickly" is worthy of some comment. It appears to the present authors that this may be an indicator of more parental concern on the part of pediatrician users with regard to the health of their children, and this would be quite consistent with our hypothesis that these consumers have higher expectations with respect to the outcomes of the professional (technical) performance of the physician. Indeed, our study suggests that differences in expectations between the two groups of consumers with regard to quality/outcomes of care may turn out to be a crucial factor. The causes of dissatisfaction mentioned by pediatrician-users clearly indicate that they are more critical of their physician's performance, and since it is difficult to believe that pediatricians as a group objectively perform worse than GP's/FP's, it would appear to be a case of higher expectations. What is not clear is whether these higher expectations are part of the original frame of reference(Mechanic 1968, Larsen & Rootman 1976) of the consumer or whether these are in fact generated during the course of parent-physician interaction (in which case it may be possible that the pediatrician is the real causal factor).

Why is it that very few consumers who use a GP/FP mentioned physician's performance as a cause of dissatisfaction? One possibility, as we have seen already, is that these consumers may have lower expectations in terms of the outcomes of medical care and the physician's contribution to these outcomes. Another possibility is that these consumers may be more critical of their physician's performance(Cartwright 1967). Hence they may prefer to be critical only in those areas where they believe they are in a position to make judgements.

Future Research: We are currently in the process of validating some of the findings and hypotheses discussed above. In particular, we hope to investigate further the issue of whether the two kinds of providers are competing in the same market and whether consumers can be segmented along the benefit dimensions tentatively put forward by us. Also, as discussed earlier, few demographic differences have been found between the two groups of consumers, and in the current phase of our research we hope to gain some insights into the psychological variables that may represent the underlying dimensions of difference. With regard to the consumer's choice process, a cross-sectional sample survey, such as the one used in this study, can result only in tentative findings on account of problems of recall and experience bias in the respondent's answers. A full-fledged longitudinal study is required to validate these findings.

References


Doyle, B. J. & Ware, J. E., Jr. (1977), "Physician Conduct and Other Factors That Affect Consumer Satisfaction With Medical Care," Journal of Medical Education, 52, 793-801.


Owens, A. (1983), "Where the Primary Care Squeeze is Hurting GP's and FP's," Medical Economics, (June 13).


Ware, J. E., Jr. (1981), "How to Survey Patient Satisfaction," Drug Intelligence and Clinical Pharmacy, 15, 892-899.

Ware, J. E., Jr., & Snyder, M. K. (1975), "Dimensions of Patient Attitudes Regarding Doctors and Medical Care Services," Medical Care, 13, 669-682.