

Marketing for an Urban Health Center

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MARKET penetration of health care delivery systems is difficult to predict. The acceptance level appears to be a function of the adequacy of existing health care facilities, the appeal of the proposed new forms of health care, the marketing approach used, patients' travel and waiting time, and the cost and method of payment. Accurate prediction of both the extent of market penetration and the degree of selective enrollment could be critical in planning for new health systems or the expansion of existing programs.

Our concern here is the influence of previous medical utilization and geographic proximity on the registration of a target population into a new comprehensive health plan.

A preselected group of families, identified primarily by previous utilization of pediatric emergency facilities at the Boston Children's Hospital Medical Center (CHMC), was recently offered the opportunity to register at Longwood Center.

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Longwood is the first of a group of medical centers sponsored by Health Inc., a nonprofit corporation created to deliver primary comprehensive medical care to families in the Boston area (1). The marketing procedure employed to register these families afforded the opportunity to examine the influence of previous medical utilization (as measured by visits to an emergency facility) and geographic proximity on registration rates, as well as to realize some of the difficulties in marketing health plans to an urban population.

Methods

Longwood Center, which opened in February 1971, is adjacent to the CHMC in Boston. Medical care at the center is offered to the entire family and includes pediatric, internal medicine, obstetrical, and pediatric dental care, with referral available to other medical and surgical specialties. The center promised a 24-hour coverage and a personal primary physician for each family. All families residing within a 3-mile radius of the hospital were eligible to register, although the implicit target population was urban families not presently receiving comprehensive care. Financing was begun on a fee-for-service basis, with prepayment options to be developed later. It was estimated that most of the target families were either receiving welfare or had private medical insurance.

An initial target group was chosen by one of us (E.C.B.) in the following manner. During the 6-month period between March 1 and August 31,

Table 1. Number of children seen at CHMC pediatric emergency facilities, March 1–August 31, 1970, according to registration at Health, Inc., 1971

Number of children seen per family	Registered families ¹		Nonrespondent families ²	
	Number	Percent	Number	Percent
1.....	165	56.5	214	62.4
2.....	75	25.7	80	23.3
3.....	35	12.0	36	10.5
4.....	11	3.8	9	2.6
5.....	5	1.7	1	.3
6.....	1	.3	3	.9
Total.....	292	100.0	343	100.0

¹ Registered families had a mean of 1.70 children using the facilities ($t=1.60$; $P>.10$).

² Nonrespondent families had a mean of 1.58 children using the facilities.

1970, all families using the emergency facilities at CHMC were identified from the CHMC records. From this group, a sample of approximately 3,000 families apparently using the emergency facilities for primary care was selected. Items recorded for each family included name, address, number of children treated at the emergency facilities during the observation period, and dates and total number of emergency visits. Other demographic or medical information, such as family size, race, medical diagnosis, and other sources of medical care, was not available.

Beginning January 4, 1971, mailings were sent sequentially to the families, beginning with the early letters of the alphabet. The families received a packet of information about Health, Inc., and were given the opportunity to request an appointment at Longwood Center or to receive additional information. Virtually all responses were returned within 2 weeks. In addition to the mailings, a number of announcements about the center appeared in the local press, and discussions were held with selected community groups.

Beginning May 1, the initial 2,365 mailings, which had been sent between January 4 and March 31, were analyzed and divided into four categories: (a) registered families (one or more family members registered), (b) families requesting additional information, (c) nonrespondents, and (d) mailings returned because of incorrect address.

Information on the following variables was recorded for all registered families as well as for a 20 percent systematic sample (with a random

start) of the nonrespondent families: (a) number of family members seen at CHMC emergency facilities during the observation period, (b) number of visits per family during that period, and (c) area of residence by census tract.

Results

Responses to the 2,365 mailings were as follows: registered families, 292 (12.3 percent), requests for additional information, 149 (6.3 percent); nonrespondents, 1,717 (72.6 percent), and mailings returned, 207 (8.8 percent). Subsequent analyses compare the 292 registered families with 343 nonrespondent families chosen as a 20 percent sample of the nonrespondent group.

Previous utilization. Table 1 shows the number of children per family using the CHMC emergency facilities during the observation period. The registered families had a mean of 1.70 children using the emergency facilities, while the nonrespondent families had a mean of 1.58 children. The difference is not statistically significant ($P>.10$).

Table 2 compares the two groups by number of visits per family during the observation period. The registered families had a mean of 2.69 visits compared with 2.42 visits by the nonrespondent group. This difference is not statistically significant ($P>.05$).

Geographic proximity. For analysis, the families were divided into two groups, those living

Table 2. Number of visits per family at CHMC emergency facilities, March 1–August 31, 1970, according to registration at Health, Inc., 1971

Number visits per family	Registered families ¹		Nonrespondent families ²	
	Number	Percent	Number	Percent
1.....	100	34.2	137	39.9
2.....	68	23.3	80	23.6
3.....	50	17.1	68	19.8
4.....	31	10.6	27	7.6
5.....	22	7.5	11	3.2
6.....	9	3.1	9	2.6
7.....	4	1.4	2	.6
8.....	3	1.0	5	1.5
9.....	1	.3	1	.3
10 or more.....	3	1.4	4	.9
Total.....	292	99.9	343	100.0

¹ Registered families had a mean of 2.69 visits per family ($t=1.71$, $P>.05$).

² Nonrespondent families had a mean of 2.42 visits per family.

³ 11 and 13 visits, one family each; 14 visits, two families.

⁴ 10, 13, and 25 visits, one family each.

within 2 miles of Longwood Center and those living more than 2 miles away. The results are shown in table 3. Approximately the same proportion of registered and nonregistered families lived within 2 miles of the center (60.3 percent versus 56.7 percent, $P > .30$).

Although data on racial composition of the families were not available, we thought that race might be an important hidden variable in determining marketing success. An indirect method of estimating this variable is demonstrated in table 4. The percentage of black births in specific neighborhoods is compared with the percentage of registered families in the same neighborhood. While the small numbers of families in some neighborhoods make meaningful comparison difficult, no striking correlation was seen between registration rates and racial composition of the neighborhood.

Discussion

Registration at a health center such as Longwood represents a different level of commitment than enrollment in a prepaid health plan. Registration is merely a declaration of intent to use specified services and entails no contractual obli-

gation or financial investment, while enrollment involves a contractual agreement between enrollee and provider. Nevertheless, registration is an important indicator in assisting new fee-for-service plans to predict volume of services required and to estimate cash flow. In planning for Health, Inc., it was estimated, based on Alpert and associates' study of 250 families (2), that at least 25 percent of the target families would elect to register at the first center. The actual registration rate of the first 2,365 families approached was 12.3 percent—one-half the predicted rate.

The variables that we examine here do not identify the factors that influenced families to register at the center. Gaus (3) interviewed 340 families in Columbia, Md., and compared characteristics of families enrolled in the Johns Hopkins-sponsored Columbia Medical Plan with families not enrolled. He found that enrolled families had a greater frequency of previous hospitalization, current health problems, and conditions requiring continuous followup care. Neither actual numbers nor statistical significance tests were reported. Gaus concluded that "selective enrollment in terms of health characteristics is occurring."

Table 3. Distance of family residence from Longwood Center, according to registration at Health, Inc., 1971

Distance	Registered families		Nonrespondent families		Total	
	Number	Percent	Number	Percent	Number	Percent
Less than 2 miles	170	60.3	183	56.7	353	58.3
More than 2 miles	112	39.7	140	43.3	252	41.7
Total	282	100.0	323	100.0	1 605	100.0

¹ Excludes 20 families from Cambridge and 10 from Brookline ($X^2=0.83$, $P > .30$).

Table 4. Registration of families by neighborhood, Health, Inc., 1971

Neighborhood	Registered families	Nonrespondent families	Total	Percent	
				Registered families	Black births ¹
South Dorchester	12	5	17	70.6	8.2
North Dorchester	70	71	141	49.6	39.4
Roxbury	144	147	291	49.5	73.6
South End	9	12	21	42.8	52.3
Back Bay	7	10	17	41.2	13.9
Jamaica Plain	32	58	90	35.6	4.4
Brighton	6	13	19	31.6	2.4
North End	2	7	9	22.2	2.6
Total	282	323	2 605	46.6

¹ Data: from "Statistical Summary 1966," Boston Department of Health and Hospitals.

² Excludes 20 families from Cambridge and 10 from Brookline.

While our study showed that the frequency of pediatric emergency care was slightly greater for registered families, the differences are small and not statistically significant. However, it is important to mention some major differences between Gaus' study and ours. First, his study described selective enrollment in a prepaid plan whereas ours was concerned with registration in a fee-for-service program. It may be that because prepaid plans offer economic incentives to families with high medical utilization, selection based on this variable will occur in prepaid plans but not in fee-for-service plans.

Second, the Columbia families were drawn from an isolated, highly educated middle-class suburban population, while ours came from an urban core population having a number of other accessible medical facilities to choose from. In addition, Gaus' data on health conditions were obtained from a household survey and, while thereby including all sources of medical care, depended on the recall of the surveyed population. Finally, our target population had been preselected from the records of one urban pediatric hospital, while the Columbia families were randomly chosen from the city address list. All these differences make comparison of the two studies extremely difficult.

Bellin and Geiger (4) and Salber and associates (5) claim that geographic convenience may be an important factor in deciding where families obtain health care. Our data show that families living less than 2 miles from the health center had essentially the same registration rates as those more than 2 miles away. However, our target population was selected from a group of families that had already demonstrated a willingness to travel to the same location for at least some portion of their medical care. Furthermore, geographic distance is only a gross measure of ease and convenience of transportation. Another possibly important geographic variable not measured in this study is the relative accessibility of alternative medical facilities.

Although information on race was not available during selection of the target population, we tried to use registration rates by neighborhood as a proxy measure of race. Health, Inc., has attempted to integrate its staff racially at all levels, and it was believed that racial factors may have been an important consideration for families in selecting the program. However, our analysis did not support this theory.

Salber and associates (5), in studying a federally funded maternal and child care center, found higher registration rates among families with young children, families with low income, and black and Spanish-speaking families than in the remainder of the population. However, the "out-reach" marketing for their center had been particularly directed at those very groups, and registration was defined as any patient encounter over an 18-month period. Thus, their data really describe utilization patterns, and it is difficult to estimate patterns of response to marketing.

Perhaps the most important aspect of our study was the realization of the difficulty in marketing health plans. Traditionally, prepaid health plans are offered to employees of large organizations, thereby simplifying the administrative processes of marketing and premium collection. Marketing to a geographically defined population, particularly in a large city, is far more complex, and it involves, as Rogers and Heyssel (6) point out, dealing with interrelated governmental agencies, community groups, and small businesses. Furthermore, the technical difficulties in coping with a mobile urban population are considerable. Salber and associates (5) describe in detail the problems of obtaining accurate demographic data on a population of poor urban families.

Rogers and Heyssel (6) warn of the large amounts of capital needed for developmental and startup costs to create a comprehensive health program. Accuracy in predicting market penetration may play a key role in the financial viability of such programs, given the finite resources of philanthropic organizations. Health, Inc., overestimated its marketing success, thereby complicating the planning and development of the first center.

The paucity of published information on the marketing of health plans is striking. The relationship of such variables as age, race, family size and composition, income, geographic convenience, and previous medical utilization patterns to registration or enrollment in health plans has yet to be well delineated. Furthermore, the relative efficacy and cost of various marketing strategies such as mailings, telephone calls, neighborhood presentations by community representatives, and group presentations, either alone or in combination, have yet to be determined. Perhaps the relatively recent appearance of such programs and the professional ethical constraints on marketing help explain this lack of information. Yet, as national forces seem increasingly inclined to favor the

growth and development of both fee-for-service and prepaid health plans, marketing promises to become increasingly important and, it is hoped, better understood.

REFERENCES

- (1) Cronkhite, L. W., Alpert, J. J., and Weiner, D. S.: A health care system for Massachusetts N Engl J Med 284: 240-243, February 1971.
- (2) Alpert, J. J., et al.: Effective use of comprehensive pediatric care. Am J Dis Child 116: 529-533, November 1968.
- (3) Gaus, C.: Who enrolls in a prepaid group practice. Johns Hopkins Med J 128: 9-14, January 1971.
- (4) Bellin, S. S., and Geiger, H. J.: Actual public acceptance of the neighborhood health center by the urban poor. JAMA 214: 2147-2153, December 1970.
- (5) Salber, E. J., Feldman, J. J., Offenbacher, H., and Williams, S.: Characteristics of patients registered for services at the neighborhood health center. Am J Public Health 60: 2273-2285, December 1970.
- (6) Rogers, D. E., and Heyssel, R. M.: One medical school's involvement in new health care delivery models: Its problems and its pleasures. Arch Intern Med 127: 57-64, January 1971.

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A preselected group of families, identified by previous utilization of pediatric emergency facilities at a Boston hospital, was offered the opportunity to register at a new primary care health center. Of the first 2,365 families approached, 12.3 percent registered, 6.3 percent requested additional information, 8.8 percent could not be reached because of incorrect family address, and 72.6 percent did not respond. There was no significant difference between registered families and a 20 percent sample of nonrespondents with regard to either previous medical utilization (of the emergency facilities) or geographic proximity to the center.

Although accurate prediction of market penetration is important to the success and stability of health programs, little is presently known about factors influencing marketing success.