This study reports on the configuration of medical care patterns and the impact on it of a change in sponsorship of one medical care source, the neighborhood health center.

CHANGE OF HEALTH CENTER SPONSORSHIP: I. IMPACT ON PATTERNS OF OBTAINING MEDICAL CARE

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Introduction

If health system functionaries accept the philosophy that the consumer is knowledgeable about his personal health needs and related health activities, then it follows that increased knowledge concerning what the consumer does, wants, and needs must be acquired for proper design and implementation of a health-delivery system that consumers will use. One of the dimensions of this knowledge is the relationship of sources of medical care to the medical care patterns of the consumer.

The neighborhood health center concept has been one of the more radical innovative approaches to more effective delivery of health services to emerge during the Sixties. It provides a means of bringing the “mainstream of health service” to the consumer, rather than making the consumer seek for himself entry into the mainstream. It returns health service resources to the community from whence they came. The health center integrates preventive, curative and rehabilitative services into a unitary package, thereby seeking to avoid fragmentation.

Of particular interest in this study is a health center which was introduced into a public housing community on the North Side of Pittsburgh, Pennsylvania in 1963 as a medical service demonstration under sponsorship by the Allegheny County Medical Society and financed by the United States Public Health Service. The center was patterned after a private type of general practice on a fee-for-service basis.

Three particularly significant events occurred since Solon’s 1964–1966 study that influenced the role the health center has in the medical care patterns of the residents of the community. These were (1) sponsorship and financial responsibility for the center were transferred to the Allegheny General Hospital, (2) a change was made in the medical staff from one full-time physician to three physicians each providing service part-time, and (3) uncertainty occurred for a period of 9 months whether the health center would remain open pending assumption of support by Allegheny General Hospital.

The significance of these events and their impact on the community are best demonstrated through a brief historical perspective of the community and the health center.

Shortly after the community was established and the dwellings were occupied, it became evident that this setting was far from perfect. Aside from being geographically isolated from the rest of
the city, it was also socially isolated. Availability and accessibility of health services were limited. No health professional practiced in the community and professionals in neighboring communities were overworked. Because of this situation, the residents of the community sought assistance from the county medical society and the county health department in providing health services.

In June 1963, following increasing demands for medical services by the resident, a public health physician opened a community Health Project Office in the community. In October 1966, illness forced the physician to reduce activities, and from that time forward the Health Center experienced physician staffing problems and funding problems. Following a nine-month period of uncertainty as to whether the center would remain open, responsibility for the Health Center was assumed by Allegheny General Hospital in October 1967. Along with this transfer of sponsorship came a physician staffing pattern of three physicians, each providing part-time service. Their combined services were the equivalent of 5½ days of full-time physician services at the Health Center.

Methodology

The conceptual framework around which this study was designed is identical to that used by Solon (1967). It seeks to identify not only the component sources of a person’s medical care pattern, but also their respective roles. This approach projects beyond fragmentary information about the number of visits or days of care a person received. It seeks to derive a systematic pattern that identifies both the source of care and its role in his medical care.

Essentially, these components are identified and defined as:

1. Volume Source of Medical Care. This source of medical care is that source which is most frequently used. It is the source of quality utilization, rather than the character of utilization as is characteristic of the central source.

2. Central Source of Medical Care. This source of medical care serves as the anchor point of the medical care pattern. It is the source in which the individual places his greatest trust and reliance. It is the referral point or source of verification and reassurance of medical care.

3. Configuration of Medical Care. This is defined as the pattern of types of sources used respectively for general and specialty care.

4. Supplemental Sources of Medical Care. These are sources of care in addition to the central and volume sources. These sources are identified as to use for specialty medical care and general medical care.

This approach permits identification of the changes that have taken place in the period from 1966 to 1968 in terms of the ways residents are getting medical care. It demonstrates the part the health center has in these changes, and the role it has in the medical care patterns of the residents. The specific null hypotheses to be tested in this report are (1) there was no change in the configuration of the medical care patterns of the residents since the 1964–1966 study and (2) there was no change in the supplemental care patterns of the community residents since the 1964–1966 study. The findings regarding changes in the volume sources and central sources of the medical care patterns of the residents were previously reported (Schumaker, 1970) as follows:

- Overall, over one-fourth of the residents changed their type of volume source of care from 1966 to 1968.
- Relative proportions of the residents using the health center as a volume source of medical care remained approximately the same from 1966 to 1968.
- Of these residents who used the health center as a volume source in 1966, only about two-fifths were still using the health center as a volume source in 1968.
• Overall, slightly over one-half of the residents (in the study) changed their type of central source of medical care from 1966 to 1968.

• Of those residents who used the health center as a central source in 1966 only about one-half still identified the health center in this role in 1968.

Although central interest of the study was focused upon the role of the health center in the medical care patterns of residents of the community, the study also included the various sources of medical care used by the residents and the role of each source in the medical care patterns. The study included both users and nonusers of the health center.

By selecting a stratified random sample of the families in Solon’s study (1967), a “before and after” study was achieved to measure the residents. From the 547 families (2,336 individuals) included in Solon’s study, a sample of 100 families were selected for this study. To insure representativeness relative to the 1964–1966 study, a listing of the families was prepared. This listing stratified the families on two dimensions—race and family-size. With the aid of housing office records, families who had moved out of the community were deleted from the listing. The selection of families included in the study was accomplished by using a table of random numbers in such a manner as to insure representativeness of the 1964–1966 cohort.

During the interview phase of the study, 15 families were excluded from the final study sample. Two families had moved from the community between the sample selection phase and the interview phase, two families refused to participate in the study, and 11 families were unable to be contacted after three or more visits to their residences.

A household survey and housing authority records provided the data upon which the study was based. To insure comparability with the 1964–1966 study findings on medical care patterns, queries concerning medical care sources were taken verbatim from the Solon Study interview schedule. Family informants were the source of information concerning the source of medical care of each family member and the manner in which each member used the particular source of care mentioned. This method assumes that the informant is familiar with the other members’ sources of medical care, and how they individually regard these sources of care. The interviews were structured and took an average of 20 minutes per interview. The survey and enumerators were identified with the University of Pittsburgh, Graduate School of Public Health. This was done toward assuring objectivity in the conduct of the survey, and freedom of expression on the part of household informants.

Representativeness of Study Cohort

The 85 families (365 individuals) of the 1968 study constitute 8.5 per cent of the families (8.6% of the individuals) in North View Heights. This represents 15.5 per cent of the families (15.6% of the individuals) who had constituted the 1964–1966 study cohort.

The white-nonwhite racial percentage divisions were 63.3:36.7 for the 1968 study cohort, (2) 63:37 for the 1964–1966 cohort (Solon, p. 774), and (3) 69:31 for the residents of North View Heights as of 1966 (Solon, p. 774). The male-female divisions were respectively, 47:53, 46:54 (Solon, p. 774), and 47:53 (Solon, p. 774).

The family-size distribution between the 1968 study cohort, the 1964–1966 study cohort, and the North View Heights population as of 1966 is presented in Table 1. Percentage distributions by age for the same categories are presented in Table 2.

Based upon the data from these two tables, it is concluded that the 1968 study cohort is similar to the 1964–1966
study, and the total population of North View Heights as of 1966. In one area they definitely are different from the total population; this is their length of residence in North View Heights. By design of the selection process, residents who were included in the 1968 study have lived in the community since January 1963—necessitated by the nature of the study, whose prime focus is the impact of the sponsorship change of the health center upon the medical care patterns of the residents.

Number of Sources in the Medical Care Pattern

The mean number of sources in the medical care patterns of the follow-up sample in 1968 was 1.6, and the mode number was 2.0. In 1966 the mean number of sources in the medical care patterns was 1.7 and the mode was 2.0. In 1966 Solon found 54 per cent of the residents with multiple sources of care in their medical care patterns. In the 1968 study, 206 (56.5%) of the participants

| Table 1—Family-size distribution of 1968 study cohort, 1964–1966 study cohort and North View Heights residents: 1966 |
|-----------------|-----------------|-----------------|-----------------|
| Family size     | 1968 study cohort | 1964–1966 study cohort* | North View Heights residents: 1966† |
| 1 person        | 16.5             | 16.1             | 15.1            |
| 2 persons       | 11.8             | 12.8             | 16.3            |
| 3 & 4 persons   | 23.5             | 25.4             | 23.8            |
| 5 & 6 persons   | 28.2             | 28.1             | 26.0            |
| 7 or more persons | 20.0             | 17.6             | 18.8            |
| Totals:         | 100.0            | 100.0            | 100.0           |

* Computed from records of the 1964–1966 study.
† Extracted from the 1966 Annual North View Heights Housing Office Report.

| Table 2—Percentage distribution of 1968 study cohort, 1964–1966 study cohort and North View Heights residents, 1966 by age |
|-----------------|-----------------|-----------------|-----------------|
| Years of age    | 1968 study cohort | 1964–1966 study cohort* | North View Heights residents, 1966* |
| Under 15        | 50.7             | 49              | 50              |
| 15–24           | 12.1             | 13              | 14              |
| 25–44           | 24.3             | 24              | 22              |
| 45–64           | 6.0              | 7               | 7               |
| 65 and over     | 6.9              | 6               | 7               |
| Totals:         | 100.0            | 100.0           | 100.0           |

had multiple sources of care. Only 25 had more than two sources, slightly less than that found by Solon and 144 had only one source of care, of these 25 used clinics, 67 used private physicians and 52 used the health center. Among those who used multiple sources of care, the majority used similar type of source—175 persons. In only 31 cases were different types of sources used, such as private physician and clinics or health center. The clinics-health center combination is a predominant pattern—147 persons had this type of medical care. The next prominent type of pattern is that of using only private physicians: 88 persons. In decreasing frequency, the following patterns are evident: health center only, 52 persons; clinics only, 32 persons; private physician and health center, 16 persons. Miscellaneous patterns account for the remaining persons who have medical care sources.

Configuration of Medical Care Patterns

Table 3 presents the configuration of the medical care patterns of the follow-up participants. This table presents the overall pattern of sources in the relation of each source’s role as between general and specialty care. This type of analysis helps to clarify how and, in some instances, why multiple sources of care are used by the consumer.

General Medical Care

As indicated in the vertical column of Table 3, general medical care is obtained from a variety of sources. Of the follow-up participants, 34 per cent use the health center as their sole source of general medical care, 22 per cent use the health center in combination with private physicians (3%) or outpatient clinics 19 per cent. Therefore, 56 per cent of the follow-up participants obtain their general medical care from the health center, either solely or jointly with other sources.

Less than one-third of the participants use outpatient clinics as their source of general care. However, as a sole source of care, only 11 per cent of the participants use clinics. The remainder use the clinics in conjunction with other sources—the most dominant being the health center/clinic combination (19%).

Another source of general medical care is from private physicians. Over one-fourth of the participants use private physicians as the sole source of general medical care. Another 6 per cent of the participants use private physicians in combination with other sources.

There was a highly significant increase in the proportion of the follow-up participants who use the health center as a sole source of general medical care compared with that Solon reported, i.e., 34 per cent versus 21 per cent. There was slight, but not significant, decrease in the use of private physicians as the sole source of general medical care: 26 per cent compared with 29 per cent. There was a highly significant increase in the use of clinics as the sole source of general medical care: 11 per cent versus 8 per cent.

Changes were also noted in the combination categories. In all categories, decreases were noted. There was a decrease from 22 per cent in 1966 to 19 per cent in 1968 in the use of the health center-clinic combination as the source of general medical care. There also occurred a significant decrease of 9 percentage points in the use of the health center/private physician combination for general care: 3 per cent versus 12 per cent, and a decrease of 1.5 percentage points in the combined use of clinics and private physicians for general medical care.

Specialty Medical Care

Outpatient clinics are the predominant source of specialty care. This source serves as the sole specialty source for
### Table 3—Configuration of medical care patterns—1968

<table>
<thead>
<tr>
<th>Sources of general medical care</th>
<th>Single type alone</th>
<th>Combinations</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Clinics</td>
</tr>
<tr>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
</tr>
<tr>
<td>Totals*</td>
<td>365</td>
<td>100.0</td>
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<tr>
<td>Single type alone†</td>
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<td></td>
</tr>
<tr>
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<td>11.0</td>
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</tr>
<tr>
<td>Private physician</td>
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<td>25.8</td>
</tr>
<tr>
<td>Combinations</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>18.9</td>
</tr>
<tr>
<td>Health center-private physician</td>
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<td>2.5</td>
</tr>
<tr>
<td>Unknown</td>
<td>17</td>
<td>4.6</td>
</tr>
</tbody>
</table>

* Because of independent rounding and computer truncation of each percentage figure in subsequent tables, a full series will not necessarily total the per cent in the totals columns.

† Although residents view North View Heights Health Center as a single type of source with clinics, it is separated from them for evaluation purposes.
over one-half of the follow-up participants. This is an increase of 8.6 percentage points compared with the findings of Solon (1967). In 39 per cent of the participants, no specialty source was identifiable. The second largest source of specialty care is the private physician—8 per cent. This is a decrease of 23.8 percentage points compared with that reported by Solon.

Other sources, including combinations, account for the remaining 2 per cent of the population. As contrasted with Solon’s findings, a few residents did identify the health center as a source of specialty care, either solely or in conjunction with other sources.

Four combined general and specialty medical care patterns are particularly evident in the data presented in Table 3. These patterns are: (1) 20 per cent of the participants use the health center for general medical care and outpatient clinics for specialty medical care, (2) 17 per cent use the health center/clinics combination for general care and outpatient clinics for specialty care, (3) 11 per cent use hospital clinics for both general and specialty care and (4) 6 per cent use private physicians for general and specialty care. These four patterns account for 44 per cent of the participants.

A comparison of the dominant configurations of combined general and specialty medical care patterns reported above with those reported by Solon (1967) would indicate a shift had occurred.

Only 8 per cent of the 1966 study cohort used pattern 1 (health center for general medical care and outpatient clinics for specialty medical care), whereas 20 per cent of the 1968 participants used this pattern. Eighteen per cent of the 1966 study cohort used pattern 2 (health center, clinics combination for general medical care and outpatients clinics for specialty medical care) and 17 per cent of the 1968 cohort used this pattern.

Pattern 3 (hospital clinics for both general and specialty care) was used by 7 per cent of the 1966 cohort and 11 per cent of the 1968 cohort. The fourth pattern (private physicians for both general and specialty care) decreased in use from 18 per cent in 1966 to 6 per cent in 1968.

Conclusions

The overall conclusions of the data presented are as follows:

1. The number of sources in the medical care patterns of the residents in 1966 and 1968 was approximately the same, two on the average.

2. In the configuration of the medical care patterns of the residents, shifts in the predominant patterns have occurred since 1966. The predominant patterns in 1966 were: (a) private physicians as the source for both general medical care and specialty medical care and, (b) the health center in conjunction with outpatient clinics for general care and outpatient clinics for specialty care. In the 1968 study, the second pattern was still present, but the health center as a source of general medical care and outpatient clinics as a source of specialty care was the most dominant pattern found.

These findings refute the two hypotheses that indicated no changes had occurred in the supplemental general and specialty medical care patterns of the residents. Changes have occurred in the medical care patterns of the community residents since the 1966 study.

Future Considerations

If health care is accepted as a right, and if the consumer is considered to be knowledgeable concerning his health needs and related health activities, then providers of health services must accept that increased knowledge concerning behavior patterns of the consumers must be acquired and increased voice in the designs and implementation
of the health-delivery system must be accorded the consumer. This does not imply that the consumer control the practice of medical care, but he should have a say in the provision of medical care. Selected dimensions of the health-delivery system are in the judgmental domain of the consumer. Among these are acceptability, accessibility, convenience and cost.

This study is only one small effort in this direction. Increased study along these lines is necessary. Each health subsystem must know the role-set that its consumers impose on it to appropriately plan its programs. Studies such as the ones conducted at Beth Israel Hospital, Boston, Massachusetts, (Solon, et al., 1960 a, b) and Yale-New Haven Medical Center, New Haven, Connecticut, (Weinerman, et al., 1966) need to be conducted by other health-service agencies.

Additionally, studies of this sort need to expand to include the medical care sources that are nonprofessional. Elucidation of these sources and their roles within the medical care patterns of consumers is needed. These sources have been referred to by Eliot Freidson (1960) as the "Lay Referral System" in contrast to the "Professional Referral System." By identification and systematic analysis of all sources of medical care—lay and professional—in the medical care patterns of consumers, health-system functionaries will have a better knowledge of how to plan programs and obtain participation from consumers.

If the consumer’s choice and control in determining his health care is accepted as a philosophy, then the provider must gear his services to the consumer in terms of the medical care patterns of the consumer or educate the consumer concerning alternatives available and accessible that are more effective and efficient based upon professional judgments. By the same token, the provider of health services must recognize that he, too, has alternatives, some of which are acceptable to the consumer and some of which are not. He must identify the acceptable ones and adjust his delivery system to meet the role expected of the source of medical care.

In projecting future research along these lines, it is worth considering role theory analysis in relation not only to medical care patterns of consumers, but also to episodes of illnesses and medical care. When does the consumer seek our medical care? How does the consumer integrate and articulate the various sources of care by episodes of illness and medical care? What role does a particular “professional source” have during the same episodes of illness and medical care? Are they duplicating or supplementing each other? Why do role distinctions exist? What factors account for alterations in the medical care patterns during different episodes of illness and medical care? Do consumers develop a battery of medical care sources with differing roles in mind, depending upon different conditions of ill health?

These, and more, are questions to be investigated in future studies, if health service organizations as a health system are to reach their objectives of physical, social, and mental well-being of the people they serve, in an efficient, effective, accessible, and acceptable manner.

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**Nutrition Project to Develop Community Guidebook**

Malnutrition and hunger in the United States will be studied “at the community level” under a $29,499 federal grant recently awarded to APHA. Concern for the number of Americans suffering from malnutrition, and the lack of meaningful data for assessing the problem, prompted the request for the study.

Milton Z. Nichaman, M.D., of the Center for Disease Control in Atlanta, will direct the one-year project. Based on APHA’s endorsement of health studies at the local level, the nutrition project will:

- Assess the nutritional status of individuals in communities and special population groups;
- Develop national estimates on the problem;
- Publish a community nutrition guidebook to pinpoint the problems of malnutrition and suggest methods of alleviating the problem.

Plans for the proposed guidebook will be initiated at a conference of nutrition and technical experts and community health workers. Date and site of the conference will be announced later.