

## **Determination of Health Care Priorities and Expectations among Rural Consumers**

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*A probability sample of rural Kentucky residents was interviewed to determine felt need for a new health facility to replace the recently closed local hospital. When problems rather than solutions were stressed and semantic difficulties avoided, respondents identified a set of needs agreeing with those recognized by professional planners, but with important discrepancies in desired location. Data from diverse sources such as market research and traffic flow studies validated the expressed locational preferences as congruent with community behavior patterns, emphasizing the need for early solicitation of consumer attitudes and establishment of fully reciprocal communication.*

An adequate definition of the consumer's role in medical care planning constitutes a major problem in the current health care scene. Federal legislation has already made consumer representation mandatory on boards for comprehensive health planning. Neighborhood health centers have been confronted by burgeoning demands from the local citizenry for a major voice in decision making. Schwartz's comparative study of medical care plans and his attendant review of the literature [1] suggest that consumer participation among the rank and file is minimal and represents occupational groups with relatively greater education and higher income. The problem is compounded because planners, under immediate pressure to broaden the base of consumer participation, have not yet developed a model for the ideal relationship between consumers and experts in medical care planning. Unless attention is given to this sort of definition, the result may continue to be chaos and mutual hostility.

Possibly experts and consumers both have important but quite distinct roles to play. The present study explores the expectations of a rural Kentucky population in regard to location and type of medical services for their region and the relationship of these concepts to those of professional planners. Three major areas were explored: (1) the consumers' experience with medical resources (physicians, hospitals, and health department facilities); (2) the types of service they felt were most needed in a new community facility; and (3) their willingness to travel for care in various medical situations. Existing

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travel and trade patterns were also examined, as revealed in retail market research reports, local newspaper advertising, and highway department studies, to be compared with inferences drawn from opinion research. The emphasis throughout was on felt needs and probable behavior rather than on alternative solutions to the problems.

## Background

When the religious order that had for many years supported the small local hospital announced withdrawal of its support on the grounds that the hospital could no longer be economically operated, the community became aroused. Spontaneous local committees were formed to investigate possible new sources of support to reopen the hospital. One of the resources approached was the department of community medicine of the University of Kentucky.

"Franktown" is the county seat of a county with a population of 4500, served by two general practitioners. Half the beds in the 30-bed hospital were designated for acute service and half for chronic nursing-home service, but the designation was flexible enough to accommodate immediate needs. The hospital had been operating at about 35 percent occupancy. The county itself is relatively poor: primarily an agricultural county situated on the western border of Appalachia, in 1960 it ranked 111th of the state's 120 counties, with a median family income of \$1733.

Approximately 25 miles to the west is the larger community of "Goldhill," with nine physicians, including one surgeon, and a 44-bed hospital. About the same distance to the north, but almost twice as far in travel time because of poor roads, lies "Caput." The 42-bed medical center there, originally developed as a satellite of the university medical center at Lexington, has several specialists, including two internists and two surgeons.

Previous studies by the church board and the state on the regional availability of hospital care indicated that there was no need for a hospital in Franktown. The situation resembled that faced by many rural areas throughout the nation.

## The Sample

With electric utility company records as the sampling frame, a probability sample of 171 households (approximately 15 percent of the county's families) was selected. The company served approximately 90 percent of the county's geographic area and estimated that it had on its rolls over 90 percent of the households in the service area. Areas were randomly selected from the utility maps, and the names and addresses of all subscribers living in those areas were obtained from the company, to constitute the sample. The interviewers talked with the head of each household or, where none was available, with a responsible adult member of the household. The interviews were conducted over a five-week period in June and July of 1968.

Of the 171 households originally selected, 157 interviews were completed (92 percent response rate). Four incomplete interviews were not included in the final analysis; four persons refused to participate in the study; and in six families a responsible adult could not be found despite repeated calls. As seen in Table 1, the sample compared relatively closely with other data available for the county, if the change in dollar values since the 1960 census is allowed for. The majority of the sample were Protestants; 23 percent did not attend church. Seventy-two percent of the families owned at least one car or truck, and an additional 19 percent had access to such transportation. The mean respondent age was 51 years; 36 percent were males and 64 percent were females.

**Findings**

**Current Utilization of Health Resources**

In 109 (69 percent) of the households at least one member had been in the hospital at Franktown. Seventy-seven (49 percent) had used the hospital in Goldhill, and 40 (25 percent) had used one of the hospitals in Lexington. Only six families (4 percent) had gone to the satellite center in nearby Caput. Thirty-two families (20 percent) had used other hospitals in Kentucky and elsewhere; 11 families (7 percent) had never used any hospital.

When asked whether they had a physician whom they considered their family doctor, 92 percent (144) of the respondents replied affirmatively. Of these, 95 had a family doctor in Franktown and 47 in Goldhill. Only two families had physicians located elsewhere. Among the sample families, 46 percent had made more than 10 visits to the doctor in the past two years, 25 percent had made 1 to 5 visits, and 27 percent none.

The utilization patterns described by the sample were compared with other measurements of activities and services in the area. Marketing research reports showed that the retail trade axis ran from Franktown to Lexington, passing through Goldhill, and highway department studies showed that most travel in the area took place along this axis. Content analysis of the Franktown newspaper revealed that the out-of-county city with the most advertisements

Table 1. Comparison of Study Sample and County Data

Characteristic	Study sample	County data*
Median household income, \$	2500	1733
Households with incomes under \$3000, %	54.2	76.6
Median years schooling	7.2	7.9
Percent nonwhite	0	0.3
Percent on public relief	14	20†
Persons per household, mean	3.5	3.71

\*From 1960 census.

†1966; Kentucky State Department of Economic Security.

over a year's time was Goldhill, supporting the westward orientation of the Franktown trade area suggested by the retail trade area study and the traffic flow study. This Franktown-Lexington axis fitted the medical service patterns of our respondents. The regional health plan for the area, however, envisioned a medical service area centered in Caput, creating an axis almost 90 degrees north of the established trade patterns.

**Attitudes toward Health Facilities**

There was a general feeling of satisfaction expressed about the old hospital; 74 percent of the sample were fully satisfied with the services offered, and only 3 percent voiced dissatisfaction. One hundred twenty respondents (75 percent) praised at least one specific quality of the old hospital, tending to focus on items of "care" rather than "cure." The 188 comments offered could be grouped as follows:

Good treatment .....	70
Friendly staff .....	51
Convenience .....	33
Good equipment/facilities .....	13
Favorable admission policies .....	8
Other .....	13

The 35 persons (22 percent) who had specific criticisms listed lack of modern equipment, mismanagement, and excessive political influence, together with more traditional complaints about the food, specific incidents with the staff, and lack of space.

Among the respondents 69 percent felt that the local health department served all the people of the county, while 28 percent felt it helped only the poor. Although only 68 percent of the sample reported using the health department's facilities, 98 percent declared themselves satisfied with the services available. Approximately 80 percent (126 respondents) could cite at least one service offered by the health department. This knowledge was directly related to previous experience: 105 of 107 persons who had used the department (compared with 21 of 50 who had not) knew at least one service.

**Consumer Priorities**

The interviewees were asked to list spontaneously the things they thought would be most important and least important in a new county health center; 116 respondents (74 percent) had at least one positive suggestion, and 30 (19 percent) offered at least one item to be avoided.

Of the 210 "most important" services, emergency care was most often mentioned (58). Other services, in decreasing frequency, were maternity care (21), nursing home care (19), X-ray service (16), operating room (13), laboratory (7), and pediatrics (6). Over a fourth of the responses (68) were more general comments falling into three categories: (1) a wish to see the old hospital reestablished, (2) a desire for facilities that would be more

accessible both physically and psychologically, and (3) enumeration of specific details such as air conditioning.

Almost half the 34 responses regarding things least needed in a new facility referred to "big things" that could be done in Lexington. Other responses included among the "least important" things large staff, surgery, physical therapy, expensive construction, and elaborate equipment.

When asked what factors would most determine the accessibility and convenience of the new facility, respondents seemed to think more in terms of time than of distance. A few mentioned ambulance service and home care programs in this connection.

A series of agree-disagree statements was used to explore feelings about several areas not otherwise covered. The statements were phrased in both positive and negative terms to avoid rote agreement. A clinic open 24 hours a day 7 days a week was favored by 73 percent of the sample; 71 percent thought it important that a patient not be kept waiting. Some 70 percent agreed that a home care program would provide some relief for local medical problems. The assignment of health department nurses to assist the local physicians was favored by 69 percent; 66 percent thought a patient should be able to spend as long as he liked with the medical person he was seeing; and an equal number thought that someone other than a physician could handle many medical problems.

In an effort to establish a priority system, the investigators used two measures of willingness to travel for medical services. (This seemed an appropriate basis, since 91 percent of the families either owned or had access to a car). The respondents were asked how far, in terms of miles, they would go for different types of treatment. They were then asked how far, in terms of places, they would go to obtain treatment for specific medical problems. As seen in Table 2, an order of priorities emerged in which consumers were generally willing to travel farther for conditions that require more specialized facilities. This pattern can be seen also in Table 3. (The tables show that the proportion of the sample population who had no plan to meet most medical problems or would not generally seek medical assistance rose dramatically for two problems, family planning and treatment of a retarded child, where over a quarter of the respondents could not say what they would do. Information about these two areas is insufficient to explain this reaction.)

These measures of willingness to travel were converted to scores for further analysis. For each of the seven items in Table 2 one point was allowed for every ten miles, to develop a maximum score of 35 ( $5 \times 7$ ); the mean score was 17.3, the median 16, and the standard deviation 5.7. Similarly for Table 3, by allowing one point for each stop, a maximum score of 48 ( $12 \times 4$ ) was possible; the mean score was 25.9, the median 27, and the standard deviation 9.4. The correlation coefficient of these two scores was .349 (significant at .05). The variables of age, sex, and education had no significant relation to distribution of travel scores. Those respondents with incomes less than \$3000 had significantly lower travel scores based on mileage, but no

Table 2. Willingness to Travel for Various Medical Services: Distance

Type of service	Percent willing to travel:					Do nothing, don't know
	0-10 mi.	11-20 mi.	21-30 mi.	31-40 mi.	40+ mi.	
Surgery	1	20	30	14	30	5
Cardiac	7	13	14	11	45	11
Eye and ear	4	32	40	10	9	5
X-ray	28	33	22	8	5	5
Obstetric	33	25	26	8	4	5
Family care	55	26	12	3	2	2
Dental care	33	30	24	7	2	4

Table 3. Willingness to Travel for Treatment of Specific Conditions: Places

Condition or need	Percent willing to travel to:				Do nothing, don't know
	Franktown	Next county	Lexington	Farther	
Brain operation	1	4	83	7	6
Other operation	3	19	69	5	4
Heart attack	10	22	55	8	5
Fracture	15	31	45	5	5
Eye examination	9	41	40	5	6
Delivery	17	35	36	4	8
Prenatal care	18	37	36	3	6
Dental treatment	20	40	30	4	6
Injections	34	22	34	4	6
General checkup	31	29	31	4	6
Family planning	22	30	20	4	24
Care of retarded child	14	5	39	5	38

similar difference was found for the other travel score. None of the utilization factors (previous use of local or more distant hospitals, use of the health department, or use of a family doctor) had any statistically significant relation to travel scores. Interestingly enough, the travel scores of the 13 families without access to a car or truck were distributed in a fashion similar to that of the majority.

## Discussion

The early solicitation of consumer opinions and expectations, amplified by examination of relevant behavior patterns, may offset many potential difficulties. Large areas of consensus between consumers and professionals can be identified, as they were here, if attention is focused on the main problems rather than on proposed solutions. Once such consensus is established, mutually agreeable solutions can more readily be sought. The problems of identifying, validating, and legitimating consumer spokesmen or representatives can be avoided where it is feasible to sample the consumers directly,

preferably under the aegis of a disinterested agency. The consumers are thus able to function as consumers, without the difficulties incumbent upon their assuming planning responsibilities. As planning bodies evolve, consumer representatives can serve as advisors to point out problems that might otherwise be overlooked.

This study involved rural consumers with problems somewhat different from those of their urban counterparts. Both experience growing shortages of physicians and services, but the lack of specialists in rural areas is particularly acute. Krakowski et al. [2] have shown that the rural resident receives only about half as much specialist service as his city cousin. Although both may suffer from impediments to obtaining care, the rural consumer must add unavailability and distance to possible financial, temporal, social, and psychological barriers to treatment.

Rural consumers, however, tend to exert less pressure on the medical establishment than their urban counterparts. Obviously, a rural county, however underprivileged, does not have the same mechanism for concerted expression of discontent as a compact city slum neighborhood. Solicitation of consumer opinion is important in either setting, but it may behoove students of consumer response (in medicine and other fields) to test their hypotheses in a rural environment before moving into a high-tension urban situation.

The respondents in this study had a fairly accurate understanding of both the medical care problems confronting them and their implications. In general, they did not stipulate requirements that would be impossible to fulfill in their rural setting (such as immediate proximity of specialists). While there was a tendency to glorify the old hospital, the priorities set by the people favored emergency care above all other services. Such reality orientation in identifying needs has favorable implications for the relationship of consumers and professionals at the stage of more specific planning.

Perhaps equally important was a strong tendency to speak of general problems and to stress human qualities rather than services. This emphasis on "care" rather than "cure" might have important implications for determining the consumer's role in health planning. The patient unable to evaluate technical aspects of treatment may yet have strong feelings and preferences about matters of personal comfort, convenience, and human relations. If the consumer were expected to participate in advisory boards specifically to comment on general and humanistic aspects of program planning, leaving technical aspects to professional personnel, the relationship would probably be less threatening to both parties.

Previous research bears out the study findings that consumers' suggestions tend to be general and unrelated to medical competence. The same emphasis was pointed out by Koos in his studies on rural and urban consumers [3,4]. In their studies of rural Missouri families, Hassinger and McNamara [5] found a general satisfaction with the medical care received; those who were dissatisfied spoke primarily in terms of the amount and availability of care rather than its quality. Interviewing clinic outpatients in an urban medical

center, Reader et al. [6] found that over half the attributes describing a good or bad physician pertained to how the doctor related to the patient rather than to the physician's medical competence.

The identification of a physician as family doctor has been shown by Hassinger and McNamara [7] to affect the perceived relation with practitioners. Those families with a family doctor tended to favor intimate personal contacts involving the whole life situation; they placed emphasis on personal loyalties rather than on service relationships and had a much less alienated (dysfunctional) orientation than did those households without a family physician. They also reported greater satisfaction with the medical care received. In the present study sample, 92 percent of the households identified a family doctor; yet 66 percent felt that someone other than a physician could handle many of the problems normally brought to the doctor.

Questioning rural residents about their probable use of physicians' services, Hassinger and McNamara [5] found a tendency to rely on locally available resources. Data from Jehlik and McNamara [8] suggest that utilization of physicians' services may vary inversely with their distance from the consumer. The study of rural referrals to a university outpatient clinic by Williams et al. [9] emphasizes the important role of the consumer in determining how far he will travel for care: while 72 percent of the physician-initiated referrals were from more than 70 miles away, 65 percent of the patient-initiated referrals were from less than 70 miles away. There is still a paucity of data on the effects of distance in determining the accessibility and utilization of health care [10]; however, planners might obtain valuable insight into such questions from information about consumer behavior and attitudes relevant to other types of service in a given community.

As they set out the distances they were willing to travel, the study respondents developed a continuum on which distance varied with the specialization of the service. Items such as neurosurgery, myocardial infarction, and general surgery were recognized as requiring the facilities of a medical center. However, almost as many people similarly categorized fractures and eye examinations. Between Tables 2 and 3, several discrepancies are apparent. For example, 30 percent or more of the respondents were willing to go to Lexington (approximately 60 miles) for treatment of all but one of the specific conditions listed in Table 3; but for the services listed in Table 2 (with two exceptions), fewer than 30 percent were willing to travel beyond 40 miles, specified as distance. These people may think more in terms of specific places or travel time than in terms of mileage; or, alternatively, the response evoked by a specific problem may differ from the response to a general service. In either event, rankings on each scale show a similar pattern of priorities.

The value of this type of data in comprehensive health planning for regional care can be illustrated by the conflict between the utilization vectors proposed by the planners and the established trade patterns of the area, which were 90 degrees discordant. The study results confirmed the congruence of medical and trade areas, thus highlighting the problem of either changing

established habits or coordinating resource location more effectively with existing behavior patterns.

One important stumbling block to consumer–professional communication was found to lie in the connotation of certain loaded words. The people of Franktown had decided that they needed a hospital. Even though interviewers carefully avoided any reference to “hospital” and used more general terms such as “medical facility,” the people persisted in referring to the “hospital.” It was gradually recognized that both sides were describing the same type of minimum care facility, but that the name had particular importance to the local population.

The results of this survey suggest that many of the potential solutions now being proposed to offset the imbalance of supply and demand, such as minimum care facilities, physicians’ assistants, satellite clinics, and integrated home care–private practitioner systems, have a higher likelihood of acceptance by consumers if they are planned in the light of data from diverse sources on existing consumer behavior in the area and are presented as solutions to the consumers’ expressed needs.

## **Summary and Conclusions**

The difficulty of finding an adequate definition of the consumer’s role in planning for community health facilities appears to be a problem of communication: a matter of when communication is begun and how. Effective communication is a two-way process and should not be confused with notification. Clearly, one must reach the people first, to learn what they need, what they want, and how they use what they have. Representation must be made truly representative, either by careful identification of community factions or by direct sampling of community opinion and consideration of other sources of relevant data.

When these principles were applied in this rural study, it was found that:

- The consumer’s felt needs for various types of service were in general realistic and in keeping with the assessment of planners.
- Their desires were more concerned with the human quality than with the technical quality of the services they received.
- Their desires concerning availability and convenience—that is, location—were sharply at odds with the proposal offered by the planners but decidedly congruent with the general trade and travel patterns of the community, apparently determined more by considerations of travel time and road quality than by actual distance.

The consumers recognized that they would have to travel to get many of the more sophisticated services but sought the security of availability for the more basic services. Relative willingness to travel showed no clear correlation with age, education, sex, or income; nor was this willingness a product of previous experience with hospitals, the health department, or family physicians.

Expressed locational preference was in keeping with the community's behavior as a whole, as evidenced by retail market research reports, highway use studies, and content analysis of advertising in local papers.

The professional must communicate clearly *to* the community, avoiding semantic misunderstandings based on loaded terms. Equally, the professional must be sensitive to all communication *from* the community, behavioral as well as verbal. The community's needs and desires must be elicited early in the problem-defining stage. By a focus on felt needs rather than on the means of meeting them, the consumer can be encouraged to contribute constructively to the planning effort before he becomes alienated by proposals based on possibly inadequate data.

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