

Selection of a Physician for Prenatal Care

Michael LeFevre, MD, Steven Zweig, MD, and Jerry Kruse, MD
Columbia, Missouri, and Quincy, Illinois

The selection of a physician for prenatal care was studied as a model of the generic process of choosing a physician. The results suggest that factors important in this process are similar to those relating to satisfaction with care: physician competence, cost and convenience, and personal qualities. Women selecting obstetricians for prenatal care placed a higher emphasis on physician competence, whereas those selecting family physicians placed a greater emphasis on cost and convenience.

The process of medical care is complex, with the actual diagnosis and treatment of disease being only one aspect of this process. Conceptually an individual patient-physician encounter consists of a series of interrelated steps (Figure 1). As described in the model of the sickness career,¹ patients have a background perception of wellness against which they make decisions about being sick. A symptom must be recognized as abnormal and be perceived to be sufficiently significant to require help from a health professional, or preventive services must be deemed valuable. These decisions occur within the framework of the individual's social network, with others in this network often influencing the decision to seek professional help. The individual must then select a physician. This particular step in the process of medical care is the focus of this paper. The subsequent patient-physician encounter is the step that has been the primary focus of biomedical research (diagnosis and treatment of disease) and the focus of much medicosociologic research (patient-physician interaction).

The selection of a physician has been the focus of little research. As noted by Wolinsky and Steiber,² this issue deserves attention for reasons of practicality, conceptual development, and health policy. The decision to seek medical care, and thus the need for selecting a physician, is a frequent occurrence; patients see a physician a mean of 4.8 times each year. The selection of a new physician

is common in an increasingly mobile and consumer-oriented society. With growing competition, the marketing aspects of this decision are becoming increasingly relevant.^{3,4} Further, understanding the overall process of medical care is necessary to increase the likelihood of a good outcome. These steps in the process of care are interrelated. For example, the decision to seek care may be related to the ease with which the individual can select a physician. Finally, understanding the selection of a physician has important policy implications. During this time of rapid change in the structure of health care systems, better understanding of patients' choices will allow changes that meet the needs of patients.

It seems likely that the issues involved in the selection of a physician are similar to those relating to satisfaction with medical care. When choosing a physician, the individual is making a decision that he anticipates will result in satisfaction. Hulka and Zyzanski⁵ identified three major areas of patient satisfaction: physician competence, personal qualities, and the cost and convenience of care. In the simplest situation, an individual satisfied with his prior care will return to the same physician when the need again arises. Conversely, a patient who finds care unsatisfactory will be more likely to select a different physician,⁶ one who is perceived to be more satisfactory in one or more of these dimensions of care. For example, a patient might find his physician very competent and personable, but choose to find another who is more convenient or possibly less costly. In the selection of a physician, it is unlikely that each of these factors is weighted equally, and the weight given to each particular factor in the decision process probably varies from person to person.

This study examines the choice of a physician for prenatal care, testing the hypothesis that dimensions of patient satisfaction influence the selection of a physician for medical care.

Submitted, revised, January 6, 1987.

From the Department of Family and Community Medicine, University of Missouri-Columbia, Columbia, Missouri, and the Department of Family Practice, Southern Illinois University, Quincy Family Practice Residency Program, Quincy, Illinois. A portion of this paper was presented at the Annual Meeting of the North American Primary Care Research Group, Seattle, Washington, April 17, 1985. At the time this study was undertaken, Drs. LeFevre, Zweig, and Kruse were Robert Wood Johnson Foundation Fellows in Academic Family Practice at the University of Missouri-Columbia. Requests for reprints should be addressed to Dr. Michael LeFevre, Department of Family and Community Medicine, University of Missouri-Columbia, Columbia, MO 65212.

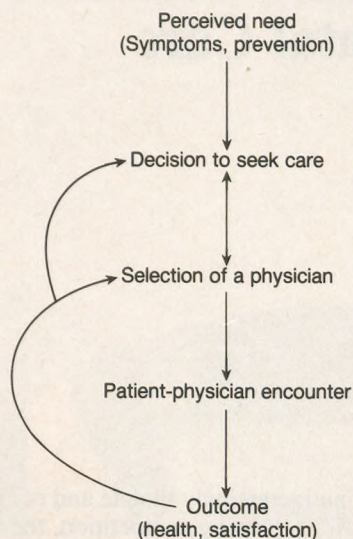


Figure 1. Conceptual model for the process of medical care

TABLE 1. COMPARISON OF CALLAWAY COUNTY TO OTHER NON-SMSA COUNTIES

	Callaway County	US Counties Outside SMSA*
Sex		
% female	50.9	51.0
Race		
% white	94.0	88.1
% black	5.2	8.8
Median age (years)	28.8	30.1
Aged more than 65 years (%)	12.1	13.0
Mean household income	15,553	16,043
Education		
% high school graduates	59.5	63.7
% college graduates	9.6	11.0

* Standard metropolitan statistical area, US Census data, 1980

of Callaway County. Two hospitals there provide obstetric services. One is an osteopathic hospital staffed by physicians in general or family practice, and the other a private hospital staffed by obstetricians. Columbia, population 60,000, is 15 miles west of Callaway County. Obstetric care is available there from obstetricians and family physicians in both private and university settings.

Information used in the study was obtained from birth certificate data as well as a questionnaire mailed three to 12 months after delivery. The following information was elicited by questionnaire:

Physician: Respondents indicated the name of the physician first selected by the patient for prenatal care.

Prior contact: Respondents were asked whether they had any prior contact with the physician or clinic they chose for prenatal care and to indicate whether this physician had provided most or all of their medical care prior to this pregnancy.

Reasons for selection of a physician: Seven specific reasons were listed and respondents were asked to indicate on a five-point Likert scale the importance of each factor in their choice of a physician or clinic for prenatal care. The items listed were drawn from prior literature on the selection of a physician. In addition, respondents were asked to list any other factors that were important.

Distance to physician's office: Respondents were classified in three groups: (1) less than 15 miles; (2) 15 to 30 miles; (3) more than 30 miles.

Method of payment: Respondents indicated how they paid for the care they received for their pregnancy. The responses fell into the following categories: (1) insurance paid all or almost all of bills, (2) Medicaid paid all or almost all of bills, (3) insurance paid over one half, patient paid the remainder of bills, (4) insurance paid a small part, patient paid most of bills, (5) patient paid all of bills.

METHODS

This study was part of a larger project that examined patterns of utilization and satisfaction with prenatal care and described health-related beliefs and behaviors during pregnancy.

The population studied included all married women residing in Callaway County, Missouri, who had a live birth during a one-year period ending July 15, 1983. The population was identified by birth certificates, thus it included all Callaway County residents regardless of the location of the hospital used for delivery. Callaway County is a rural county in central Missouri with a population of 32,252, similar in most respects to all other US counties outside a standard metropolitan statistical area (Table 1). Fulton (population 12,000) is the county seat and has the only hospital in the county. No other town in the county has a population greater than 2,500. Three family physicians in private practice in Fulton provide obstetric care. In addition, the University of Missouri family practice residency program has a satellite clinic in Fulton. Pregnant women seeking care at this clinic have their babies delivered in the local hospital. Three communities in adjacent counties have health care services commonly utilized by Callaway County residents. Mexico is a town of 15,000 located approximately 10 miles north of Callaway County. Two obstetricians provide virtually all of the obstetric care at the Mexico hospital. Jefferson City, the state capital with 35,000 people, is adjacent to the southwest corner

Respondents in categories 1 and 2 were grouped together, as were categories 4 and 5, since very few respondents were in categories 2 and 4.

Household income: Intervals of \$6,000 were listed up to \$30,000, with incomes greater than \$30,000 being grouped together. Respondents were instructed to check the category that included the total family income before taxes.

Analyses were performed using Student's *t* tests for continuous data and nonparametric statistics, including chi-square and Wilcoxon rank-sum test for categorical and ordinal data. Alpha factor analysis was used employing varimax rotation to identify underlying constructs in the reasons for selecting a physician. Factors that had an eigenvalue of one or greater were considered significant, and individual items were considered associated with the factor if their factor loading was 0.4 or higher. Since alpha factor analysis minimizes the effect of error variance, it is the most appropriate method of extraction for examining construct validity and developing scales.⁷ Multivariate analysis was performed using logistic regression. When information used in a particular analysis was missing for one variable, that subject was dropped from that particular analysis only.

RESULTS

Of 385 questionnaires mailed, 15 were returned undeliverable. Two hundred fifty-five questionnaires were returned with usable information, for a response rate of 69 percent. A comparison of respondents and nonrespondents is shown in Table 2. Of the 255 respondents, 241 received prenatal care and provided information about the selection of a physician.

Two hundred thirty-five women received care in one of the four areas described above, Fulton, Mexico, Jefferson City, or Columbia. Overall, 144 (61.3 percent) of these women chose a local provider, ie, a physician in the location closest to her home (Table 3). It should be noted that all women in the sample actually lived closer to Fulton, Jefferson City, or Mexico than to Columbia. Sixty-two (46 percent) of 136 women who lived closest to Fulton, a city with a smaller hospital and no obstetricians, selected a physician in that community (Table 3). In contrast, of those living closest to Jefferson City or Mexico, 82 (83 percent) of 99 women selected a physician in the nearest location.

Of those women who sought care at the closest location, 87 percent traveled less than 15 miles, and no one lived farther than 30 miles from their physician's office. In contrast, 87 percent of women who did not choose the closest location traveled more than 15 miles, and 18.7 percent traveled more than 30 miles.

TABLE 2. COMPARISON OF RESPONDENTS (n = 255) AND NONRESPONDENTS (n = 130) TO STUDY QUESTIONNAIRE

Demographic Findings	Respondents	Nonrespondents
Age (mean years)*	26.3	24.7
Education (mean years)*	13.0	12.0
Race (%)		
White	96.8	95.4
Black	1.6	3.8
Other	1.6	.8
Parity (%)		
Primiparous	39	41
Multiparous	61	59

* Differences of means of respondents and nonrespondents is significant ($P < .05$)

Prior contact with the physicians was common. Two thirds of the subjects had some prior contact with the physicians or clinic that they chose for prenatal care. Of these subjects, one half indicated that their physicians had provided most or all of their prior medical care. The amount of prior contact differed markedly for family physicians and obstetricians. Fifty-two percent of the women seeking prenatal care from family physicians had received most or all of their previous care from them, with only 21 percent reporting no prior contact. Only 17 percent of women going to obstetricians reported receiving most or all of their prior care from the physician selected, and 43 percent reported no prior contact.

The items that were listed as possible reasons for the selection of a physician are shown in Table 4. An open-ended question soliciting other possible reasons was also asked, and only 58 women responded. Almost all of these women actually elaborated on one of the reasons listed. The list given, then, probably includes most important considerations. The recommendation of another physician and financial considerations appeared to be the least important factors involved in the selection of a physician in this setting, both having means lower than the midpoint on the Likert scale. The remaining items all appeared to be important in the decision-making process.

Factor analysis was performed to identify relationships between the items listed; two factors emerged. The first factor includes the recommendation of another physician, recommendation of family and friends, the specialty of the physician and the hospital the physician uses. Conceptually these items seem to relate to issues of professional competence. The second factor included only the items related to cost and convenience. Thus, two of the dimensions of care described in the Hulka model of satisfaction are also accounted for here.

To explore how demographic factors affect the selection of a physician for prenatal care, women selecting obste-

TABLE 3. LOCATION OF NEAREST PROVIDER COMPARED WITH LOCATION OF PROVIDER CHOSEN

Location of Nearest Provider	Number of Women Choosing					
	Local Provider*			Other		
	Obstetrician	Family Physician	Total	Obstetrician	Family Physician	Total
Fulton (n = 136)	—	62	62	63	11	74
Jefferson City, Mexico (n = 99)	55	27	82	12	5	17
Total (n = 235)			144			91

* Provider in nearest location

TABLE 4. MEAN RATING OF IMPORTANCE OF FACTORS IN SELECTION OF A PHYSICIAN

	Score on Likert Scale*	
	Mean	Standard Deviation
Recommendation of another physician	2.57	1.60
Financial considerations	2.60	1.60
Specialty of the physician	3.93	1.52
Hospital the physician uses	3.61	1.51
Recommendation of friends or family	3.40	1.38
Convenient location	3.31	1.49
Previous contact with the physician or clinic	3.58	1.49

* 1 = not at all important; 5 = very important

TABLE 5. LOGISTIC REGRESSION PREDICTING SELECTION OF AN OBSTETRICIAN

Variable	Beta	Chi-square	P
Age	.08	2.99	.08
Education	-.03	0.09	.76
Method of payment	-.31	1.81	.18
Physician competence	.43	48.33	<.0001
Cost and convenience	-.40	19.07	<.0001

tricians vs women selecting family physicians were compared. The mean age of women selecting family physicians was 25.4 years vs 26.7 years for those selecting obstetricians (P = .03). Women selecting family physicians had fewer years of education, with a mean of 12.4 years vs 13.4 years for those selecting obstetricians (P = .001). Using the Wilcoxon rank-sum test, there was no difference in income between the two groups. Patients with less insurance were somewhat more likely to receive care from family physicians, though this trend was not statistically significant (P = .07).

To determine what factors were the most predictive of the selection of a family physician rather than an obstetrician, a multivariate analysis using logistic regression was performed. First, scales representing physician competence and cost and convenience were developed by summing the responses to the items that loaded highly on the two factors that emerged in factor analysis. These scales were then entered along with age, education, and method of payment into a multivariate logistic model predicting the selection of an obstetrician. The demo-

graphic factors were not found to be statistically significant. The attitudinal factors, however, were highly significant (Table 5). A higher score on the physician competence factor was associated with the selection of an obstetrician, whereas a high score on the cost and convenience factor was associated with the selection of a family physician. Interactive terms for these factors with age, education, and method of payment were subsequently entered; none were significant. The scores on the scales relating to physician competence and to cost and convenience were the only significant predictors of the selection of an obstetrician or family physician.

DISCUSSION

This study has described some issues important in selecting a physician for prenatal care, and has demonstrated specific factors relevant to the choice of an obstetrician or family physician. The factors important in the selection of a physician can be related to prior literature on satisfaction with medical care.

First, there is the issue of physician competence. To physicians this issue would seem to be of critical importance. For patients, information regarding competence may be difficult to obtain and interpret. In this setting women selecting obstetricians for care seemed to place high emphasis on competence issues. Items that seem to

relate primarily to the question of competence, ie, system characteristics such as specialty and hospital as well as the recommendation of others, were associated with the selection of an obstetrician. It is important to note that some of these women did so at some sacrifice of convenience, since the distance required to obtain this care was often significantly farther than the distance to get care from family physicians at a small community hospital. Second, the issue of cost and convenience emerged. This aspect of care was more highly valued by women selecting family physicians for care. The third dimension of satisfaction, personal qualities, was not specifically addressed in these results. Prior experience with the physician, the item that was not associated with either of the two factors emerging in factor analysis, most likely addresses all three areas, ie, competence, cost and convenience, and personal qualities. That prior experience was not highly associated with the factors representing physician competence and cost and convenience would suggest that it represents something else, quite possibly personal qualities.

That women selecting obstetricians highly valued professional competence and those selecting family physicians valued cost and convenience should not be construed to mean that the other dimensions of care were not important. All three areas were probably considered by most women, but the areas were weighted differently in the decision-making process. The importance of these differences in the decision-making process, however, is highlighted by the best predictors for the selection of an obstetrician or family physician being the two factors, competence and cost and convenience. Stewart et al⁸ studied the selection of a primary health care provider for children and obtained strikingly similar results. Comparing consumers selecting pediatricians to those selecting generalists, he noted that those selecting pediatricians appeared to attach more importance to professional competence, whereas those selecting generalists were more concerned with cost and convenience. Both groups of consumers attached equal importance to the "art of care."

This research must be considered preliminary, as prior research has not specifically linked models of satisfaction with medical care to the selection of a physician. These data support that link, but other interpretations are certainly possible. Additional research specifically addressing this model needs to be performed in other settings and with nonobstetric populations.

Before generalizing these findings to other locations or circumstances in which a physician is selected, possible sources of bias must be considered. First, the county studied is rural, and it is possible that some of the results might not generalize to a metropolitan area. Blacks and other minorities are not well represented, and the state would not release birth certification information on unmarried women. The behavior of these groups may differ

from the behavior of the group described. Response bias can be a problem with questionnaire studies, but it is unlikely that this significantly skewed the results. A response rate of 69 percent is fairly high for a mailed questionnaire. Though nonrespondents tended to be younger and less educated, these demographic factors were not strong predictors of patients' preferences.

Another potential source of bias is recall bias. The respondents had all completed their pregnancies and were asked to evaluate the reasons for selection of a physician prior to their pregnancy. Their experience with the physician during the pregnancy, labor, and delivery might in some unknown way affect their perceptions of their original reasons for selecting that physician. Ideally the patients would be asked to respond shortly after they made the decision, though this would not be possible in a population-based study such as this.

The selection of a physician for prenatal care is unique in many respects. For pregnancy, there is a definite beginning and ending to the need for care. The weight given to physician competence, cost and convenience, and personal qualities may be different in this situation than in the selection of a physician for continuing care.

The selection of a physician for care is likely to receive increasing attention in the current competitive health care setting. It should be viewed as one of a series of interrelated steps in the complex process of medical care. This study supports the hypothesis that factors important in the selection of a physician are similar to those relating to satisfaction. As anticipated, no one particular factor surfaced as the most important consideration for most women. The general areas of physician competence, personal qualities, and cost and convenience, however, encompass most factors considered in the decision-making process.

References

1. Twaddle A: *Sickness Behavior and the Sick Role*. Boston, Schenkman-Hall, 1979
2. Wolinsky FD, Steiber SR: Salient issues in choosing a new doctor. *Soc Sci Med* 1982; 16:759-767
3. Glassman M, Glassman N: A marketing analysis of physician selection and patient satisfaction. *J Health Care Marketing* 1981; 1:25-31
4. Sullivan GL: Role of referent selection in primary care provider choice and satisfaction. *J Health Care Marketing* 1984; 4:27-36
5. Hulka BS, Zyzanski SJ, Cassel JC, Thompson SJ: Scale for the measurement of attitudes toward physicians and primary health care. *Med Care* 1970; 8:429-436
6. Kasteler J, Kane RL, Olsen DM, Thetford C: Issues underlying prevalence of "doctor-shopping" behavior. *J Health Soc Behav* 1976; 17:328-339
7. Cronbach L, Meehl P: Construct validity in psychosocial tests. In Mehrens W, Ebel R (eds): *Principles of Educational and Psychological Measurement*. Chicago, Rand McNally, 1967, p. 243-270
8. Stewart DW, Hickson GB, Ratneshwar S, et al: Information search and decision strategies among health care consumers. *Adv Consumer Res* 1984; 12:252-257