

FACTORS INFLUENCING THE UTILIZATION OF WOMEN'S
HEALTH SERVICES IN A RURAL COUNTY

by

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ABSTRACT

A questionnaire study was carried out to identify the causal factors in the selection of a source of health care by women residents of a rural county. Two research questions were posed:

1. What are the demographic characteristics associated with existent patterns of utilization of women's health services in this community?
2. What are the consumer's perceptions of the factors that influence the choice of a source of care?

The questionnaire consisted of 117 items divided into descriptive, objective, and subjective data. A comparison of birth certificate data with respondent data was done to establish sample and tool validity.

The 214 women in the sample were drawn from women residents of Tooele County, Utah, who gave birth in 1975. Respondents ranged in age from 16 years to 43 years. Twenty percent of the sample reported this as their first pregnancy. Length of residency in the County ranged between 1 and 37 years, with a mean of 13.17 years.

Chi-square analyses computed between site of last delivery and descriptive data were not significant. However, some positive tendencies were revealed. A higher proportion of women between the ages of 20 and 29, who reported more than a high school education tended to seek obstetrical care for their last delivery outside the county.

Residency of three to five years was reported with a higher frequency of women selecting care outside the County.

Questionnaire items dealing with sources of care showed a clustering of care. Women who sought obstetrical services in Tooele also tended to get their general health needs and those of their child(ren) met in Tooele. Women who chose obstetrical care outside the County, also chose other sources of care for themselves and their child(ren) outside the County.

Those women who sought obstetrical care outside the County tended to select an obstetrician as the care provider. There was little difference reported in health problems between the two groups.

Consumer data showed that women who sought care in Tooele ranked convenience and economic factors as major determinants in their selection of a source of care; while women who sought care outside the County, ranked care quality factors as major determinants in the selection process. A two-tailed t-test indicated these relationships were significant findings.

In the responses to the open-ended questions asking for recommendations about health services in Tooele County, the population surveyed indicated a primary concern with care quality factors such as professional competency and equipment available. Socio-psychological factors such as personalized care were also identified as a high priority by the respondents.

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CHAPTER I

INTRODUCTION

In neoclassical economic terms, industrial production within a capitalistic system is said to be governed by market forces. These forces are the needs and buying power of the consumer which direct the production of goods (Navarro, 1974). Traditionally in the American health care system, rather than the buying power and perceived needs of the consumer affecting the distribution and consumption of resources, it has been the providers of health care that have been primarily responsible for the general forms and patterns of consumption (Hessler & Walters, 1975). The failure of this system to provide an equitable distribution of resources and cost-containment of services has become a common complaint of consumers, providers, and health planners (Hulka & Cassel, 1973; Levin, 1976).

To provide economic availability of health resources, the current federal administration has indicated that implementation of some form of national health insurance will occur within the next four years. Federal monetary incentives (George, 1976) have already been released to encourage the development of health services in underserved areas. However, before large sums of money are spent in the creation of new services, appropriate research should be done to determine: (a) utilization patterns of the locality and (b) the reasons behind utilization patterns.

In the past a variety of approaches have been used to study utilization behavior. Economic status is repeatedly mentioned in the literature as a major determinant in the utilization of medical services (Roth, 1969; Alpert, Kosa, & Haggerty, 1967; Donabedian & Rosenfeld, 1961). However, experience in Great Britain (McKinlay, 1972) indicates that economic considerations may not be the only or necessarily the most important determinant, although it has been suggested that economic factors may play a greater role in the case of minor illnesses (McKinlay, 1972).

Socio-demographic data has been used to understand the utilization behavior of a particular group. This data describes a population; it does not explain why a particular service is used (Rosentock, 1966; McKinlay, 1972). With the exception of age (Baumann, 1961) and sex differences (Graham, 1957), socio-demographic findings do not reveal in any depth why variations exist. Some studies have emphasized a person's knowledge of illness and health as a factor in utilization (Tagliacozzo, 1970; Rosenstock, 1966). Whether or not this can be related to educational level is unclear. Social class and ethnic background does not seem to be as important in explaining utilization patterns as family and associated networks (McKinlay, 1970).

Accessibility has also been correlated with frequency of utilization (Jolly, 1971). Part of the rationale for the establishment of neighborhood health centers was that geographical proximity of services to potential consumers results in increased rates of use. McKinlay (1972) points out that proximity alone cannot explain the utilization of services. "Different groups may utilize similar sources

for entirely different reasons, or, given the same need may turn to different services" (p. 130).

Bashur, Shannon, and Metzner (1971) identified the importance of social and ecological variables in determining utilization patterns. In his study of urban patient flow, he found that the choice of a hospital or a physician is not necessarily based primarily on accessibility. He also noted that the factors involved in the selection of a health service were based on the social and health characteristics of the individual as well as the medical needs. The subjects in Bashur's study and the women described by Ris (1974) in her article "What Do Women Want?" selected their source of health care based on priorities defined by their value systems.

Recognition of the value of consumer input into the planning and delivery of health services (Lebow, 1974; Conway, 1965; Hachbaum, 1969; Salber, 1970) has resulted in increased application of social-psychological concepts in the analysis of utilization patterns. Motivation, perception, and learning are key phrases in this research. Human behavior is seen as being purposeful and based on perceived needs (Maslow, 1970). Each individual has the prerogative to identify his own goals or needs, and the behaviors with which to achieve those goals. For example, the decision to purchase a product is based on a perceived need. The consumer evaluates the alternatives available based on her/his definition of priorities. The final decision is based on which alternative will be most effective in meeting the needs of the individual.

Health seeking behavior presumably utilizes the same process as any other goal-oriented activity. The decision to seek health care is initiated by a biological or psychological need. A decision is made to manage or control the condition through health services. The benefits of the perceived alternatives are analyzed according to the individual's value system. The selection of a particular health service is based on the "expected satisfaction of the consumer with both the process and outcome of care provided" (Stratmann, 1975, p. 538).

This type of research depends on consumer statements. Some researchers have been reluctant to use consumer data because of questions of validity and reliability. Problems of recall and the known tendency for people to rate their health care favorably (Mechanic & Newton, 1965; Nunnally & Aguia, 1974) do effect data collection. But consumer opinion is necessary if the causal factors behind utilization patterns are to be understood. Consumer questionnaires are an acceptable method of data collection (Feldman, 1960; Lebow, 1974). To control for validity and reliability, consumer data should be checked against reported utilization data.

Stratmann (1975) in a study in Rochester, New York, compared consumer attitudes with actual patterns of use. Based on the concept of rational choice he made the following assumptions:

1. A person can identify the factors that constitute the components of his decision to select a source of ambulatory care;
2. a person can order and value these decision-components in a consistent manner; and,

3. a person can evaluate alternative health facilities relative to each decision component.

Interviews of 541 adults were conducted to determine the reasons involved in their selection of a particular ambulatory care service. These decision-components were collapsed into five categories: Economic factors, utility of money; temporal factors, utility of time; convenience factors, utility of convenience; socio-psychological factors, value system; and, care quality factors, utility of the quality of care such as professional competence.

In this study consumer perceptions were found to be consistent with actual patterns of use. In his conclusion Stratman (1975) writes: "That the consumer does seem to know what she/he wants, and that her/his utilization of health services is related to the purposeful pursuit of identifiable goals of values" (p. 547).

If the purpose of the health care system is to meet the needs of the consumer, it is important for health planners to understand how and why health services are used (Rosenstock, 1966). As more nurses assume the role of primary care provider, utilization data will be invaluable in the organization of their practice sites. The practice of nursing is based on a philosophy of client advocacy. Using a form of process consultation (Sedgewick, 1973), nursing assists individuals and families in the identification of health needs and of the behaviors necessary to meet those needs. Through clinical practice, nurses have identified decision-components that explain patterns of utilization. If translated into scientific research, nursing can contribute

to the development of a consumer-oriented system of health care (Leininger, 1973; Roghmann, 1974).

Background of Study

Tooele County is in northwestern Utah on the Nevada/Utah border. About 75% (15,000) of the County population reside in Tooele City (see Appendix A for demographic data).

Tooele County's health care difficulties are typical of small rural communities 30-50 miles from an urban area. Almost all of the health resources are located in Tooele City. Outside the town, the low density population with its distribution over a large land area and the relative lack of funds have been deterrents to the development of health services in the rest of the County.

Although Meade (1976) demonstrated in a patient-origin/destination study that residents of rural areas tended to use the nearest hospital, this is not true of Tooele residents. The majority of residents seek medical care outside the County. In 1975 Tooele Valley Hospital had an occupancy rate of 40%. Birth certificate data compiled by the Bureau of Health Statistics, Utah State Board of Health, showed only 24% of birth to residents of the County occurred in the County.

Improvements in rural transportation (Dickerson, 1951), changes in rural patients' expectations especially in regard to the quality of in-hospital care (Madison & Bernstein, 1976), and the medical care system's emphasis on specialty care (Association of American Medical Colleges, 1962) can be postulated as reasons behind this exodus. As the local health care delivery system is gradually eroded away the

affluent members of the community are able to seek health care outside the County--but the poor and the elderly may not have that option.

Purpose of Study

This study was part of a larger survey that was sponsored by Family Health Care, Inc., a local non-profit primary care facility, to analyze patterns of health care utilization in Tooele County, Utah. The purpose of this study was to identify the causal factors in a woman's selection of a health service. Two research questions were posed:

1. What are the demographic characteristics associated with existent patterns of utilization of women's health services in this community?

2. What are the consumer's perception of the factors that influence the choice of a source of health care?

This survey has attempted to develop a model for data collection that synthesizes previous methods of analyzing utilization patterns. By establishing a valid and reliable tool for data collection it is hoped that in the planning of health services for women, it will be possible to integrate "what the professionals think the patient needs, what the patient thinks she wants, and what the system is able to deliver" (Schneider, 1973, p. 72).

CHAPTER II

METHOD

The sample population was drawn from women who were residents of Tooele County and gave birth in 1975. Data for the study were collected during the months of October and November, 1976. The Bureau of Health Statistics, Utah State Division of Health provided the names and addresses of this group from birth certificate data. At the request of the Bureau, unwed mothers ($N = 36$) were not included in the sample. The agency expressed concern that provision of the names and addresses of this group would be a violation of confidentiality. Questionnaires were mailed to 535 women. Five hundred and thirty-five represents the total number of births ($N = 575$) minus the unwed mothers ($N = 36$), minus duplications ($N = 4$) which were attributable to multiple births.

Of the 535 women who were mailed a survey questionnaire, a total of 216 returned them. One hundred and forty-five questionnaires were received prior to the mailing of a reminder letter. After this second mailing, an additional 71 were received. Of the 216 returned questionnaires, one was blank and one was less than half completed. Both of these were deleted from the sample population. Seventy questionnaires were returned because of no forwarding address. Based on the 465 questionnaires received, there was a 46% response rate.

Protocol

The method of data collection was by a mailed questionnaire. A cover letter explained the purpose of the survey and requested the return of the completed questionnaire in the enclosed addressed, stamped envelope.

Although this study was sponsored by Family Health Care, Inc., it was decided that the questionnaire should be mailed out by a neutral group in the community. Concern was expressed that women receiving the questionnaire who did not utilize Family Health Care, Inc., might not return it thinking it did not apply to them--or might view the questionnaire as an advertisement of the medical group. At the end of October, the chairman of the Tooele Resource Coordinating Council was contacted in person and asked if his agency would provide the cover letter (Appendix B) for the questionnaire. The Resource Council is an interagency planning group that meets monthly to better coordinate the delivery of the various services in the County. The chairman agreed and suggested that the return envelope have the agency's mailing address. His suggestion on the return address was accepted.

To encourage the return of the questionnaires, the purpose of the survey was publicized in the County. One of the members of the Community Board of Family Health Care, Inc., organized a leafleting of homes of local residents. The leaflets described the purpose of the survey and were signed by the Medical Director of Family Health Care and the chairman of the Tooele County Resource Coordinating Council (Appendix C). Another member of the Community Board distributed the

leaflets to the different congregations of the major religious group in town and requested the write-up be included in the Church's announcements.

The week the questionnaire was mailed, a local newspaper, the Tooele Transcript, ran a front page article on the survey and its sponsorship (Appendix D).

Two weeks after the mailing of the questionnaire, a reminder letter (Appendix E) was mailed to all participants requesting the return of the questionnaire if they had not already done so. Once again, the Tooele County Resource Coordinating Council letterhead stationary was used and the Chairman of the Council signed the letter. The period of data collection was limited to four weeks--two weeks after the initial mailing, and two weeks after the reminder letter. Prior to the second mailing a second article appeared in the paper providing an update on the survey stating the number of responses and a request for delinquent questionnaires.

The Measurement Tool

The questionnaire consisted of 117 questions, most of which were either in a checklist form or a Likert format with five response alternatives ranging from lowest importance to highest importance. Open-ended questions were also included because it was felt that they would enable the subject to express her feelings and concerns about women's health services. Several measures of patient satisfaction were also incorporated. The questions were divided into three areas: (1) descriptive data, (2) objective data, and (3) subjective data.

Descriptive Data

This section included basic demographic data such as age, educational level, and occupation. In designing the questionnaire, it was the feeling of the researcher that subjects would be less inhibited in answering the personal data questions if they did not appear first on the questionnaire. This section was placed at the end of the questionnaire.

Objective Data

This section included questions such as sources of care, frequency of utilization, and identified health problems. Most of the questions were in short answer or checklist form.

Subjective Data

These questions elicited consumer opinion on factors that influenced patterns of utilization and on recommendations for improving health services. The items related to why a particular health service was utilized was designed to measure four distinct sets of decision components in the selection of a care provider. These categories were: (1) convenience factors, (2) socio-psychological factors, (3) economic factors, and (4) care quality factors. A Likert format with five response alternatives was used with all categories except the category containing questions related to quality of care. These questions were in a checklist form. The section pertaining to recommendations also used a Likert format with five alternatives. There were two open-ended questions in this section that allowed individual subject priorities to be expressed that were not covered

in the main questionnaire. Responses to these questions fell into several categories and were related to the remainder of the questionnaire.

Pretest

The questionnaire was distributed to members of the Community Board of Family Health Care with instructions to critique the questionnaire for completeness and clarity. Several changes were made as a result of their comments.

A pilot study with 20 subjects was then conducted in mid-October to correct procedural and language difficulties. Volunteers were women with a pregnancy experience and who were residents of either Salt Lake County or Tooele County. Those who were residents of Tooele County were not part of the test sample. The questionnaire was handed to each woman to fill out. Participants in the pilot study were also asked to critique the questionnaire items for clarification and to note the time taken to complete the questionnaire. The average time was 18 minutes, with a range of 14 to 21 minutes. After completion of the questionnaire, the researcher met with the volunteer to review her comments about the survey tool. Several items were clarified as a result of the comments of the participants. The final questionnaire appears in Appendix F.

CHAPTER III

RESULTS AND DISCUSSION

The purpose of the study was to describe the population that was seeking care outside Tooele County, and to identify the factors involved in the consumer's choice of a source of care. In analyzing the data, the sample was divided into two groups: Group I consisted of women who chose to deliver in Tooele County and Group II consisted of women who chose to deliver outside the County.

The Univac 1108 computer at the University of Utah Computer Center (UU/CC) was used in the statistical analyses of the data. The Statistical Package for the Social Sciences (SPSS) was used for the tabulation of frequencies, non-parametric correlations, and cross-tabulation procedures. Confidence limits were set at the .01 level of statistical significance.

Throughout the questionnaire, the coding was arranged at the ordinal level whenever possible, with the highest score being given to the most appropriate answer. The rest of the data appears in nominal form. Coding varied among questionnaire sections according to the number of possible answers, and is presented in context in Appendix G. The questionnaire was divided into three parts: Descriptive data, objective data, and subjective data.

Descriptive Data

Of the 575 births to residents of the Tooele County in 1975, 136 (24%) occurred in the County and 439 (76%) occurred outside the County. Of those who responded to the questionnaire, 49 (23%) delivered in Tooele County and 165 (77%) delivered outside the County.

Table 1 through 4 display demographic information from the questionnaire responses and from birth certificates issued to residents of Tooele County in 1975. The demographic characteristics presented include age of mother, history of previous live births, and the education level of the woman and the father of the baby. The data is divided into two groups: Group 1 (Tooele) and Group 2 (outside Tooele).

Births occurring to women under 19 years of age and over 35 years of age are associated with higher risk factors (Hellman & Pritchard, 1971). The birth certificate data in Table 1 show a proportionally higher percentage of these two groups electing to receive obstetrical care in Tooele where specialty care is not available. Conversely a higher percentage of women in the lower age risk group of 20-29 years, tended to seek care outside the County.

The questionnaire data on age presents more of a matched distribution with 5% or less variation between all categories in Groups 1 and 2. The low number of reported births in the 15-19 age group may be a reflection of the elimination of unwed mothers from the sample. Computations of Chi-square analysis of age with location of last delivery were not significant.

Table 1
Resident Births by Age of Mother

	Birth Certificate Data (including unwed mothers)				Respondents			
	Group 1 (Tooele)		Group 2 (Outside Tooele)		Group 1 (Tooele)		Group 2 (Outside Tooele)	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
Less than 15			1	.2				
15-19	37	27	73	17	1	2	3	1.8
20-24	37	27	166	38	15	30.7	48	29.7
25-29	33	24	119	27	16	32.6	54	33.3
30-34	21	15	68	15	13	26.5	37	22.9
35-39	9	6	14	3	3	6.1	18	11.1
40-45	1	1	1	.2	1	2	2	1.2
45+	1	1						
Total	139*	100	442*	100	49	100	165	100

*Total higher than actual number of births due to duplications of birth certificate data.

Data describing the incidence of previous live births is shown in Table 2. Except for those women reporting two previous live births prior to their 1975 delivery, there is less than a 5% variation between Group 1 (Tooele) and Group 2 (outside Tooele) for both birth certificate data and questionnaire data. For women with a history of two previous live births, the disparity between Group 1 and Group 2 reported by birth certificate data was nine percentage points. The disparity reported by the respondents in Group 1 and Group 2 was 11.0 percentage points. Both birth certificate data and respondent data showed a higher incidence of women in this category choosing their source of care outside the county. Chi-square analysis of previous live births with location of last delivery was not significant.

The listing of live births was collapsed into two categories: Nulliparous women--those without a previous live birth; and multiparous women--those with one or more previous live births. Of the women who chose a care provider in Tooele 10 (20.8%) were nulliparous and 39 (79.6%) were multiparous. Of the women who delivered outside Tooele, 38 (23%) were nulliparous and 127 (77%) were multiparous. Chi-square analysis of these categories with location of last delivery was not significant.

Although Chi-square analyses were not significant, a definite trend exists between educational level and source of care (Tables 3 and 4). A higher proportion of the respondents (43.2%) who sought care outside Tooele listed an educational experience beyond high school. This same relationship was reported for the educational level of the (infant's) father (61.5%). Birth certificate data confirmed

Table 2
Resident Births By Previous Live Births

	Birth Certificate Data (including unwed mothers)				Respondents			
	Group 1 (Tooele)		Group 2 (Outside Tooele)		Group 1 (Tooele)		Group 2 (Outside Tooele)	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
0	52	37	158	36	10	20.4	35	21.6
1	36	26	115	26	16	32.7	45	27.8
2	14	10	84	19	6	12.2	39	24.1
3	17	12	41	9	9	18.4	23	14.2
4+	20	14	44	10	8	16.3	23	12.13
Total	139*	100	442*	100	49	100	165	100

*Total higher than actual number of births due to duplications of birth certificate data.

Table 3
Resident Births by Educational Level of Father

	Birth Certificate Data (including unwed mothers)				Respondents			
	Group 1 (Tooele)		Group 2 (Outside Tooele)		Group 1 (Tooele)		Group 2 (Outside Tooele)	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
Less than 12	40	29	63	74	9	18.8	20	10
High school graduate	56	40	168	38	18	37.5	46	28.6
More than 12 years	32	23	180	41	21	43.8	99	61.5
Total	128	100	411	100	48*	100	165	100

*Missing cases = 1.

Table 4
Resident Births by Educational Level of Mother

	Birth Certificate Data (including unwed mothers)				Respondents			
	Group 1 (Tooele)		(Outside Tooele)		Group 1 (Tooele)		Group 2 (Outside Tooele)	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
Less than 12 years	40	29	91	21	5	10.4	8	8
High school graduate	69	50	222	50	26	54.2	79	48.8
More than 12 years	27	19	121	27	17	35.4	70	43.2
Total	136	100	434*	100	48**	100	162***	100

*Missing cases = 5.

**Missing cases = 1.

***Missing cases = 3.

this relationship. Twenty-seven women (19%) in Group 1 listed more than 12 years of education; while 121 women (27%) in Group 2 listed more than 12 years of school. Twenty-three percent of the fathers whose infants were born in Tooele reported more than 12 years of school. Of those fathers whose infants were born outside Tooele, 41% listed more than 12 years of school.

In comparing the frequencies between the birth certificate and the questionnaire data, the respondents contained a lower proportion of women in the 15-19 age group, a lower proportion of primigravidas, and a higher incidence of respondents reporting an educational level beyond that of high school. These variations may be the effect of the deletion of unwed mothers from the sample population. The discrepancy between questionnaire and birth certificate data may also have been affected by the large military installations in Tooele County and the transient nature of those populations. Thirteen of the questionnaires returned because of no forwarding address had a military address (Dugway or Tooele Army Depot).

The percentages of Group 1 and Group 2 for both birth certificate data and questionnaire data in Tables 1 through 4 suggest both sample and tool validity. The differential between percentages for the total population (as expressed by birth certificate data) and the respondents is 10% or less for all items.

Measures of central tendency, standard deviations, and ranges of descriptive data of the sample population are presented in Table 5. The data is displayed in three groups: The total population; those

Table 5
 Measures of Central Tendency, Standard Deviations,
 and Ranges of Demographic Data Collected
 in Continuous Form

	<u>N</u>	Median	Mode	Mean	Standard Deviation	Range
Age in years (total)	211	27	24	27.77	5.10	16-43
Group 1*	49	27	29	27.83	5.29	1-38
Group 2**	162	27	24	27.00	5.05	1-35
Number of living children (total)	211	2	2	2.79	1.53	1- 8
Group 1	49	2	2	2.94	1.73	1- 6
Group 2	162	2	2	2.74	1.47	1- 8
Years lived in Tooele (total)	209	10	3	13.27	10.27	1-37
Group 1	49	10	2	13.46	10.31	1-37
Group 2	160	10	3	13.21	10-29	1-34
Education of woman (total)	210	12	12	12.53	.07	7-16+
Group 1	49	12	12	12.52	1.11	7-16+
Group 2	162	12	12	12.54	.96	7-16+
Education of spouse (total)	209	13	12	12.83	1.03	0-16+
Group 1	49	12	12	12.58	1.47	0-16+
Group 2	161	13	13	12.90	1.24	0-16+

*Tooele.

**Outside Tooele.

women who delivered in Tooele County; and, those women who delivered outside of Tooele County. Little variation is noted in the figures representing the demographic characteristics of Groups 1 and 2.

The sample included women ranging in age from 16 years to 43 years, with a mean age of 27.77 years. The range in number of living children was from one to eight, with a mean of 2.79 children per woman. Twenty percent of the sample reported this pregnancy as their first. The mean number of years the participants had lived in Tooele County was 13.27, the median was 10 years with a range of 1 to 37 years. The subjects reported a range of 7-17+ years of education, with a mean of 12.54 years for all subjects. The educational range for spouses was reported as 0-17+ years with a mean of 12.83 years for all spouses. Occupation of head of household was collected in descriptive terms. Table 6 displays the data for the total population, Group 1 and Group 2.

The majority of women ($N = 155$, 73.1%) did not attend prenatal classes. The most frequent reasons for not attending were history of a previous pregnancy and lack of availability. For the group who delivered outside Tooele County travel was also listed as a reason for not taking classes. Women who delivered in Tooele County took classes in the County ($N = 16$, 94.1%). Women who delivered outside the County took classes elsewhere ($N = 34$, 87.2%). The primary reason listed for taking classes outside the County was to take the instruction at the hospital where the provider delivered (Table 7).

Table 6
Occupational Status as Reported by the Respondents

Occupation	Absolute Frequency and Adjusted* Percent					
	Total		Group 1		Group 2	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
Student/high school	2	1	1	2.1	1	.6
Laborer	4	1.9	2.1	1.9	3	1.9
Other service worker	30	14.6	11	22.9	19	12
Domestic worker	34	16.5	9	18.8	25	15.8
Operator, heavy machines	28	13.6	5	10.4	23	14.6
Craftsman	27	13.1	5	10.4	22	13.9
Salesman	2	1	..	..	2	1.3
Clerical	9	4.4	2	4.2	7	4.4
Proprietor	22	10.7	4	8.3	18	11.4
Professional	48	23.3	10	20.8	38	24.1
Total	206 ^a	100.0	48 ^b	100.0	158 ^c	100.0

*Adjusted for missing cases.

^aMissing cases = 8.

^bMissing cases = 1.

^cMissing cases = 7.

Table 7
Prenatal Classes Trend Data for Groups 1 and 2

Occupation	Absolute Frequency and Adjusted* Percent					
	Total		Group 1		Group 1	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
1. Did you take classes:						
No	155	73.1	32	65.3	142	75.5
Yes	57	26.6	17	34.7	40	42.5
2. Where:						
Tooele	21	37.5	16	94.1	5	12.8
Other	35	62.5	1	5.9	34	87.2
3. If not, why not?						
Not available	44	28.4	12	41.4	32	25.4
Previous pregnancy	48	31.0	8	27.6	40	31.7
Travel	17	11	..	..	17	13.5
4. Why not in Tooele County?						
Preferred hospital where provider delivers	22	66.7	1	50.0	21	67.7
Not available	4	12.1	..	..	4	12.9
Not convenient	4	12.1	1	50.0	3	9.7

*Adjusted for missing cases.

Objective Data

The respondents were asked to identify the sources of health care used by them and their child(ren). The resultant data displayed in Tables 8 and 9 show a clustering of care. Women who sought care outside the County also tended to get their general health and medical care needs met outside the County. They also tended to take their children outside the County for well child care (60.9%) and sick care (48.7%). Women who delivered in Tooele tended to get their general health and medical needs and those of their child(ren) met in the county.

Data was not collected to determine if this clustering of care occurred as a result of a positive obstetrical experience or whether the choice of a care provider for a childbearing experience was subsequent to an already existent pattern of care. Further investigation would be needed to determine if the higher proportion of respondents in Group 1 in the younger (<20) and the older (>35) age groups and with a lower educational level limited mobility and therefore encouraged the clustering pattern observed for these women. More than 80% of Group 1 reported using local health resources for both health and medical care needs.

There was less consistency in the utilization patterns of Group 2. Sixty-nine percent of the women in Group 2 reported getting their annual check-ups outside Tooele. When sick, 46% of Group 2 reported their source of care outside Tooele, while 36% reported utilization of local health resources. The distribution for pediatric care

Table 8

Where Women and Children Go for Health Care (Group 1)

	Absolute Frequency and Adjusted* Percent									
	Tooele		Salt Lake City		Other		Tooele and Salt Lake City		None	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
1. Where do you go for your health check up? (missing value = 0)	44	89.8	..	..	..	..	4	8.2	1	2.0
2. Where do you go when you are sick? (missing value = 0)	44	89.8	..	..	..	..	4	8.2	1	2.0
3. Where did you get your last pap smear? (missing value = 0)	44	89.8	2	4.1	3	6.1	..	..	..	..
4. Family Planning Services (missing value = 2)	17	36.2	..	..	..	..	..	..	23	48.9
5. Where do your child(ren) go for well-child care? (missing value = 0)	41	83.7	4	8.2	..	..	4	8.2	..	..
6. Where do your child(ren) go when they are sick? (missing value = 0)	41	83.7	3	6.1	..	..	5	10.2	..	..

*Adjusted for missing cases.

Note. N = 49.

Table 9
Where Women and Children Go for Health Care (Group 2)

	Absolute Frequency Adjusted Percent											
	Tooele		Salt Lake City		Other		Tooele and Salt Lake City		None		Tooele	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
1. Where do you go for your annual check-up? (missing value = 4)	27	16.8	100	62.1	12	7.5	5	3.1	16	9.9	1	.6
2. Where do you go when you are sick? (missing value = 4)	58	36	62	38.5	13	8.1	18	11.2	10	6.2		
3. Where did you get your last pap smear? (missing value = 0)	9	5.5	140	84.8	14	8.5	..	..	..	..	..	..
4. Family Planning Services (missing value = 14)	3	2.0	43	28.5	1	.7	..	..	103	44.2	..	..
5. Well-child care (missing value = 4)	37	23	98	60.9	11	6.8	13	8.1	1	.6	1	.6
6. Where do you take your child(ren) when sick (missing value = 4)	38	23.7	78	48.7	8	5.0	30	18.8	3	1.9	3	1.9

Note. N = 165.

in Group 2 is similar. Children tended to get well child care outside the County (67%). However, only 53% of the respondents reported seeking sick care for their child(ren) outside the County, while 23% reported utilization of local health resources. Another 18% reported using both local and non-local services for sick care of their child(ren). Some sick care may need a specialist, but most illnesses can be treated by a family physician or other primary care provider. All of the health maintenance activities could have been provided by available health resources in Tooele.

Pap smears and breast exams are two components of health maintenance activities for women. Ninety-eight percent of both groups had had a pap smear within the past two years. Of the respondents in Group 1, almost one-fourth ($N = 12$, 24.5%) did not know breast self-exam. In Group 2, almost one-fifth ($N = 32$, 19.4%) stated they did not know breast self-exam. Of those who did know breast self-exam, almost two-fifths ($N = 68$, 38.4%) seldom or never examined their breasts.

The relationship between location of employment and a source of care was not significant by Chi-square analysis. Of the 214 women respondents, 163 (76.2%) were not employed during their last pregnancy. Of the 51 (23.8%) who were, 86% ($N = 43$) were employed in Tooele. Slightly more women in Group 1 ($N = 15$, 30.6%) were employed during pregnancy than in Group 2 ($N = 36$, 21.8%). If employed, the respondents in Group 1 almost always worked in Tooele, and the respondents in Group 2, if employed, almost always worked in Salt Lake County (Table 10).

Table 10
 Employment Data, Group 1 (Female)

N = 214

	Group 1 (Tooele)		Group 2 (Outside Tooele)	
	Absolute Frequency	Adjusted Percent*	Absolute Frequency	Adjusted Percent*
1. Employed ^a				
Yes	15	30.6	36	21.8
No	34	69.4	129	78.2
2. If yes, where? ^b				
Tooele	13	86.7	30	85.7
Salt Lake City	..	..	5	14.3
Other	2	13.3	..	..

*Adjusted for missing cases.

^aMissing cases = 0.

^bMissing cases = 34.

The women who selected care outside the County reported a slightly higher incidence of health problems in pregnancy (5.4%), in labor and delivery (4%), and in the postpartum period (8.5%) than the women delivering in Tooele. No review of medical records was done to determine if this was a complete listing. Also no data was collected to ascertain whether the problems reported by the women receiving care outside the County required the care of a specialist.

Of the women who delivered outside Tooele County, 152 (92.1%) chose a specialist as the provider. The low risk demographic characteristics (age and education) and the low incidence (35%) of reported health problems suggest that this group would be eligible to receive care in Tooele.

For both groups, the number of antepartum visits was approximately the same. Women receiving care in Tooele, saw their care providers between 5 to 30 times, with a mean of 12.20 visits. Women receiving care outside Tooele, saw their providers between 4 to 30 times, with a mean of 12.57 visits.

There was little difference in the reported birth weights of the infants in the two groups. Less than 5% of the infants were reported to have a birth weight of less than 2500 gms. or greater than 4500 gms. There was no difference in the infant problems reported at birth or in the hospital for both groups. Group 1 did report a higher incidence of infant problems at home during the first month (20.4%).

Subjective Data

This section of the questionnaire elicited the consumer's perceptions of the factors that influenced her selection of a particular care provider. The respondents were asked to rank order the importance of convenience, socio-psychological, care quality, and economic variables in their selection process (Tables 11 and 12).

Convenience Variables

In Group 1, 29 respondents (60.4%) ranked having the provider in the same community as they lived as most important. In Group 2, only 1.9% ranked this factor as most important while 126 respondents (80.3%) ranked it as a least important item.

Neither Groups 1 nor 2 ranked having the provider in the same community as employment as very important, although Group 1 ($N = 4$, 9.3%) ranked this factor slightly higher than Group 2 ($N = 3$, 2.0%). The fact that only 23.8% of the sample were employed has been discussed earlier. It is possible that working mothers were less likely to return the questionnaire, and thus the results are skewed towards the non-working mother.

Having the provider in the same community where the respondent shopped was not ranked highly by either Group 1 (most important, $N = 5$, 11.1%) or Group 2 (most important, $N = 15$, 9.6%).

There was variation between the groups on ease of travel to see the provider. In Group 1, 34 respondents (70.8%) marked ease of travel as most important. In Group 2, only 15 respondents (9.6%) felt

Table 11

The Percent of Women Who Listed Factors Influencing Choice of
Provider at a Particular Level of Importance (Group 1)

	Absolute Frequency Adjusted* and Percent									
	Least Important		Less Important		Average		More Important		Most Important	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
Choose a particular provider because she/he:										
1. Was in same community where I lived? (missing cases = 1)	5	10.4	1	2.1	6	12.5	7	14.6	29	60.4
2. Was in same community where I was employed? (missing cases = 1)	27	62.8	5	11.6	3	7.0	4	9.3	4	9.3
3. Was in same community where I shopped? (missing cases = 4)	26	57.8	5	11.1	5	11.1	4	8.9	5	11.1
4. Was easy to travel to? (missing cases = 1)	2	4.2	1	2.1	5	10.4	6	12.5	34	70.8
5. Was recommended by another medical person? (missing cases = 5)	22	50.0	6	13.6	7	15.9	4	9.1	5	11.4
6. Was recommended by a friend? (missing cases = 2)	18	38.3	9	19.1	7	14.9	3	6.4	10	21.3
7. Has a pleasing personality? (missing cases = 2)	5	10.6	4	8.5	9	19.9	11	23.4	18	38.3

Table 11--Continued

	Least Important		Less Important		Average		More Important		Most Important	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
8. Delivered my previous child(ren)? (missing cases = 7)	22	44.9	1	2.4	4	9.5	3	7.1	12	28.6
9. Has same social-religious background? (missing cases = 2)	24	51.1	6	12.8	6	12.8	5	10.6	6	12.8
10. Has approach to childbirth I wanted? (missing cases = 1)	7	14.6	3	6.3	7	14.6	10	20.8	21	43.8
11. Delivers at hospital where I wanted to deliver (missing cases = 1)	3	6.3	3	6.3	5	10.4	5	10.4	32	65.3
12. Has the most reasonable cost? (missing cases = 5)	12	27.3	3	6.8	13	29.5	7	15.9	9	20.5
13. Accepted by insurance? (missing cases = 4)	13	28.9	1	2.2	7	15.6	8	17.8	16	35.6

*Adjusted for missing cases.

Note. N = 49.

Table 12

The Percent of Women Who Listed Factors Including Choice of Provider at a Particular Level of Importance (Group 1)

	Absolute Frequency Adjusted* and Percent									
	Least Important		Less Important		Average		More Important		Most Important	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
Choose a particular provider because she/he:										
1. Was in same community where I lived? (missing value = 8)	126	80.3	18	11.5	7	4.5	3	1.9	3	1.9
2. Was in same community where I was employed? (missing value = 15)	130	86.7	10	6.7	3	2.0	4	2.7	3	2.0
3. Was in same community where I shopped? (missing value = 9)	96	61.5	14	9.0	24	15.4	7	4.5	15	9.6
4. Was easy to travel to see? (missing value = 8)	71	45.2	18	11.5	40	25.5	13	8.3	15	9.6
5. Was recommended by another medical person?	79	50.6	6	3.8	14	9.0	8	5.1	49	31.4
6. Was recommended by a friend? (missing value = 8)	49	31.2	8	5.1	21	13.4	17	10.8	62	39.5
7. Has pleasing personality? (missing value = 9)	18	11.5	3	1.9	28	17.9	34	21.8	73	46.8

Table 12--Continued

	Absolute Frequency Adjusted* and Percent									
	Least Important		Less Important		Average		More Important		Most Important	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
8. Delivered my previous children?	66	41.5	2	1.3	6	3.8	5	3.1	80	50.3
9. Has same social-religious background? (missing value = 12)	83	54.2	10	6.5	15	9.8	12	7.8	33	21.6
10. Has approach to childbirth I wanted? (missing value = 4)	19	11.8	6	3.7	25	15.5	29	18.0	82	50.9
11. Delivers at hospital where I wanted to deliver? (missing value = 6)	31	19.5	11	6.9	28	17.6	18	11.3	71	44.7
12. Has the most reasonable cost? (missing value = 8)	78	49.7	16	10.2	40	25.5	9	5.7	13	8.3
13. Accepted my insurance? (missing value = 9)	57	36.5	9	5.8	24	15.4	19	12.2	47	30.0

*Adjusted for missing cases.

Note. N = 165.

ease of travel was most important, but 71 respondents (54.2%) felt it was least important.

Socio-psychological Variables

The distribution of scores for the provider's personality was similar for both groups. Group 1 showed 5 respondents (10.6%) ranking this factor as least important and 18 respondents (38.3%) ranking it as most important. The second group had 18 respondents (11.5%) ranking this factor as least important and 73 respondents (16.8% ranking it as most important.

Previous experience with a care provider seemed to influence Group 2 somewhat more than Group 1. Of the respondents in Group 2, 41.5% scored this item as least important, but 50.3% scored it as most important.

The importance of the provider having the same social-religious background was scored similarly for both groups. In Group 1, having the social-religious background was least important by 51.1%. In Group 2, 54.2% scored this factor as least important.

Each group indicated that it was most important that the provider have a particular approach to childbirth. Group 1 ranked this item slightly less than Group 2. The difference between the two groups was 7.1% (Table 13).

The effect that the hospital that the provider used had on the woman's selection of her source of care was also evaluated. Group 1 (N = 32, 65.3%) ranked this factor as most important more frequently than Group 2 (N = 71, 44.7%). The high ranking of the hospital in the

Table 13
 Ranking According to Quality of Care Provided by MD, RN,
 Hospital as Perceived by the Consumer

	Poor		Fair		Good		Excellent									
	Group 1		Group 2		Group 1		Group 2									
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%								
MD care (missing cases = 1,4)	2	4.2	3	1.9	5	10.4	7	4.3	16	33.3	20	12.4	25	52.1	131	81.4
RN care (missing cases = 1,4)	..	..	6	3.7	4	8.3	6	3.7	23	47.9	34	21.1	21	43.8	115	71.4
Hospital care (missing cases = 1,5)	1	2.1	2	1.2	3	6.3	7	4.4	29	60.4	36	22.5	15	31.3	15	71.9

*Adjusted for missing cases.

selection of a care provider by women in Group 1 may be indicative of the importance of convenience factors to this group.

Care Quality Factors

When asked to rank the care received during the labor and delivery experience, Group 2 consistently scored higher than Group 1 for all categories. One hundred and thirty-one respondents (81.4%) of Group 2 ranked physician care as excellent while 25 respondents in Group 1 (52.1%) ranked physical care as excellent. Nursing care was ranked by 115 respondents (71.4%) of Group 2 as excellent, while 21 respondents of Group 1 (43.8%) ranked this care as excellent. The hospital was ranked by 115 respondents (71.9%) of Group 2 as excellent, while 15 respondents (31.3%) of Group 1 ranked this category as excellent. The greatest discrepancy between Group 1 and Group 2 in this section was in hospital care (40.6%). The differential is 10% more than the disparity between physician and nursing care. If the columns "good" and "excellent" are combined, very little difference is noted between the two groups. Physician care had the largest disparity between the two groups with Group 2 scoring 8.4% higher than Group 1. The difference in nursing care was less than 1%; the difference in hospital care was 3.3%.

When the participants were asked to evaluate the quality of care during their childbirth according to their expectations, the groups were fairly similar in their responses. Group 1 showed 7% more responses in the "worse than expected" column than Group 2. More

respondents in Group 1 found the care better than expected ($N = 22$, 45.8%) than in Group 2 ($N = 70$, 42.4%) (Table 14).

Economic Factors

Economic factors played a more important role for Group 1 than Group 2 in the selection of a care provider. Cost was ranked by 20.5% as most important by Group 1, while 8.3% of Group 2 ranked cost as most important. Acceptance of insurance was slightly more important for Group 1 (5.6%) than for Group 2.

To look at the relationship of these decision components to actual patterns of use, the variables in each category were collapsed into one variable. Items 6 through 9 were collated into the new variable, "convenience." The socio-psychological items were collated into the new variable, "socio-psychological." Quality care questions were collated into the new variable, "quality care." Items related to financial status were collated into the new variable, "economics." A two-tailed test of significance was computed on the four new variables (Table 15).

The t -value was used in determining significance because the F -value indicated that both groups had a common variance. Convenience factors and care quality factors were both significantly different between Group 1 and Group 2 at the .001 level. The variables related to convenience had a mean of 12.28 for Group 1 and a mean of 6.68 for Group 2. The t -value was 3.63 and there were 186 degrees of freedom. The variables related to care quality factors had a mean of 12.28 for Group 1 and a mean of 13.37 for Group 2. The t -value was 3.30 and there were 205 degrees of freedom. The variables related to economic

Table 14
 Quality of Care During Childbirth Experience
 as Perceived by the Consumer
 (Group 1 and Group 2)

	Absolute Frequency and Adjusted* Percent					
	Worse Than Expected		Expected		Better Than Expected	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
Group 1**	6	12.5	.20	41.7	22	45.8
Group 2***	9	5.5	86	52.1	70	42.4

*Adjusted for missing cases.

**Missing cases = 1.

***Missing cases = 0.

Table 15
 Relationship of Decisions--Components to
 Patterns of Utilization

Facility Used Most	Convenience	Socio- Psychological	Quality	Economic
Group 1 means (Tooele)	12.28	20.80	12.28	6.12
Group 2 means (outside Tooele)	6.68	22.43	13.37	5.03
Significance*	.001	n.s.	.001	.01

*2-tailed test of significance.

Note. t value = 3.63, convenience; 3.30, quality; 2.63, economic.
 Degrees of freedom = 186, convenience; 205, quality;
 194, economic.

factors had a mean of 6.12 for Group 1 and a mean of 5.03 for Group 2. The t was 2.63 and there were 194 degrees of freedom. Significance was computed at the .01 level. The category containing sociopsychological factors was not significant.

Those respondents who listed convenience and economic factors as most important in the selection of a care provider, chose a health care setting appropriate to their needs. These women elected to receive their care in Tooele. Those respondents who listed quality care factors as most important in the selection of a care provider sought specialty care outside the County. The selection of a care provider was based on consumer priorities.

Referral Sources

Recommendations by a lay person and by a medical person were more important in effecting the choice of a provider in Group 2 than in Group 1. In Group 2, 49 respondents (31.4%) ranked recommendation of a medical person as most important; in Group 1, 5 women (11.4%) ranked it as most important. In Group 2, 62 respondents (39.5%) ranked lay referral as important; in Group 1, 10 respondents (21.3%) ranked it as most important.

Patient Satisfaction

The respondent's evaluation of the ease of her pregnancy and her perception of her health status compared with other women were included as a result of review of current literature. These items were intended to identify a possible correlate of patient satisfaction.

More women in Group 1 (12.1%) reported their pregnancy easy compared to women in Group 2. Seven of the respondents (14.3%) in Group 1 reported their pregnancy was difficult while 29 (17.1%) of the respondents in Group 2 reported their experience as difficult. The higher incidence of women in Group 1 reporting their pregnancy as easy and the higher incidence of women in Group 2 reporting their pregnancy as difficult could also be interpreted as a process of self-referral to specialty care based on identified health problems. The data is presented in Table 16.

In comparing the respondent's health to that of other women, 5.3% more women in Group 2 than in Group 1 stated that their health was better than average. Of those women who stated their health was worse than average, the difference between Groups 1 and 2 was .5%. Data is displayed in Table 17.

Recommendations

To collect information on what the consumer would like in local health services, the respondents were asked to rank the importance of a list of 14 items. The listing was related to both ambulatory and in-patient services. These items were compiled from consumer demands identified by other researchers (Hazell, 1974; Rising, 1976; Ris, 1974). See Appendix G for enumeration of the items.

For Group 1 (Tooele), the highest scored items related to in-patient care: Husband being present during the labor and delivery (75.5%); and not restricting the husband to established hospital visiting hours (77.6%). Less than 75% but more than 50% ranked the

Table 16
Subject's Evaluation of Ease of Pregnancy

	Group 1 (Tooele)		Group 2 (Outside Tooele)	
	N	%	N	%
Difficult	7	14.3	29	17.1
Average	25	51.0	99	60.4
Easy	17	34.7	37	22.6
Total	49	100.0	165	100.0

Table 17
Evaluation of Health Compared to Other Women

	Total	Group 1 (Tooele)		Group 2 (Outside Tooele)	
	%	N	%	N	%
Better	20.6	8	16.3	36	21.8
Average	75.7	39	79.6	123	74.5
Worse	3.7	2	4.1	6	3.6
Total	100.0	49		165	

following items as important: Personalized care, provider answering questions and explaining procedures, and the option of having rooming-in during the postpartum hospital stay. One-half of the respondents ranked parenting and childbirth education classes as most important. Two-fifths of the women ranked the following items as important: Sibling visitation, type of pain medication available for labor, and husband's presence for prenatal visits. The items, minimum waiting time and Leboyer delivery were ranked least important by approximately one-third of the respondents. Actual frequencies are presented in Table 18.

The responses of Group 2 (outside Tooele) are found in Table 19. More than 75% of the respondents in Group 2 identified the following items as most important: Personalized care, provider answering questions and explaining the results of medical procedures, husband being present during labor and delivery, rooming-in, and not restricting husband visitation to established hospital visiting hours. Having the husband present for the labor and delivery had the highest score with 82.2% of the respondents ranking it as most important. At the time this study was conducted, not all providers in Tooele encouraged the father's participation in the labor and delivery. Desire to have the father involved may have encouraged some women to seek care outside the County. Also at the time this study was conducted, rooming-in was not an official policy of the obstetrical unit at the Tooele Valley Hospital. The fact that Group 2 reported a high incidence (77.1%) of women ranking rooming-in as most important suggests that

Table 18

Ranking of Recommendations in Order of Importance (Group 1)

	Absolute Frequency and Adjusted* Percent									
	Least Important		Less Important		Average		Least Important		Less Important	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
1. Personalized care? (missing cases = 1)	..	..	..	..	..	12.5	..	18.8	..	68.8
2. Answers questions? (missing cases = 0)	..	..	1	2.0	6	12.2	9	18.4	33	67.3
3. Minimum waiting time--visits? (missing cases = 1)	1	2.1	2	4.2	11	22.9	16	33.3	18	37.5
4. Explains procedures? (missing cases = 1)	1	2.1	2	4.2	6	12.5	7	14.6	32	66.7
5. Explains results of procedures? (missing cases = 1)	1	2.1	..	..	3	6.3	9	18.4	35	72.9
6. Childbirth education and parenting classes? (missing cases = 1)	3	6.3	4	8.3	7	14.6	10	20.8	24	50.0
7. Husband encouraged to attend prenatal visits? (missing cases = 1)	4	8.3	1	2.1	13	27.1	10	20.4	20	40.8
8. Hospital care personalized care? (missing cases = 1)	..	..	..	..	5	10.4	12	25.0	31	64.6

Table 18--Continued

	Absolute Frequency and Adjusted* Percent									
	Least Important		Less Important		Average		Least Important		Less Important	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
9. Husband in labor and delivery? (missing cases = 0)	4	8.2	2	4.1	3	6.1	3	6.1	37	75.5
10. Type of pain medication available? (missing cases = 0)	2	4.1	..	..	10	20.4	15	30.6	22	44.9
11. LeBoyer delivery? (Missing cases = 3)	9	19.6	3	6.5	15	32.6	4	8.7	15	32.6
12. Rooming in (option of having infant with you as much as you want)? (missing cases = 0)	1	2.0	2	4.1	5	10.2	9	18.4	32	65.3
13. Husband not considered a visitor (unrestricted visitation)? (missing cases = 0)	2	4.1	1	2.0	2	4.1	6	12.2	38	77.6
14. Sibling visitation? (missing cases = 0)	5	10.2	2	4.1	12	24.5	7	14.3	23	46.9

*Adjusted for missing cases.

Note. N = 49.

Table 19

Ranking of Recommendations in Order of Importance (Group 2)

	Absolute Frequency and Adjusted* Percent									
	Least Important		Less Important		Average		More Important		Most Important	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
1. Personalized care (missing cases = 7)	..	..	..	..	11	7.0	24	15.2	123	77.8
2. Provider answers questions? (missing cases = 6)	..	..	3	1.9	8	5.0	24	15.1	124	78.0
3. Minimum waiting time for office visits? (missing cases = 7)	4	2.5	7	4.4		19.0	47	29.7	70	44.3
4. Provider explains medical procedures? (missing cases = 8)	..	..	2	1.3	14	8.9	25	15.9	116	73.9
5. Provider explains results of all medical procedures? (missing cases = 8)	2	1.3	2	1.3	9	5.7	16	10.2	128	81.5
6. Childbirth education and parenting classes? (missing cases = 8)	3	1.9	10	6.4	36	22.9	34	21.7	74	47.1
7. Husband encouraged to attend prenatal visits? (missing cases = 8)	13	8.3	15	9.6	30	19.1	26	16.6	73	46.5

Table 19--Continued

	Absolute Frequency and Adjusted* Percent									
	Least Important		Less Important		Average		More Important		Most Important	
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%
8. Hospital: personalized care? (missing cases = 7)	..	..	1	.6	7	4.4	35	22.2	115	72.8
9. Husband in labor and delivery? (missing cases = 8)	..	..	1	.6	5	3.2	11	7.0	140	82.2
10. Type of pain medication available? (missing cases = 8)	3	1.9	4	2.5	26	16.6	23	14.6	101	30.5
11. DeBoyer delivery? (missing cases = 11)	35	22.7	14	9.1	39	25.3	19	12.3	47	30.5
12. Rooming-in (option of having infant with you as much as you want)? (missing cases = 8)	1	.6	3	1.9	14	8.9	18	11.5	121	77.1
13. Husband not considered a visitor-- unrestricted visitation? (missing cases = 8)	..	..	3	1.9	1	7.0	21	13.4	122	77.7
14. Sibling visitation? (missing cases = 8)	26	16.8	13	8.4	30	19.4	36	23.2	50	32.3

*Adjusted for missing cases.

Note. N = 165.

this item may also have been a variable in the selection of a care provider.

Less than 75% but more than 50% ranked the following item as most important: Provider explaining medical procedures. Between 30% and 50% of the respondents listed the following items as most important: Minimal waiting time, childbirth education and parenting classes, husband encouraged to attend prenatal visits, type of pain medication available in labor, Leboyer delivery and sibling visitation.

The women in Group 1 and Group 2 were similar in their responses to the list of recommendations. Having the husband present during labor and delivery and having unrestricted visiting hours for the father during the postpartum period received the highest scores in both groups. Personalized care and rooming-in were two other items ranked highly by both groups. Approximately 50% of both groups ranked parenting and childbearing classes as most important.

It has been demonstrated in this study, that the selection of a health care provider is based on the priorities of the consumer. Incorporation of the highly ranked recommendations into the health services available in Tooele County may be effective in encouraging women to utilize local health resources.

Two open-ended questions asked the respondents to make recommendations for the planning of women's health services in Tooele County. Frequencies were tabulated for up to five recommendations. All percentages in this discussion are based on the total number of recommendations (38) divided by the total number of respondents (214).

The most frequently mentioned recommendations were for the addition of an obstetrician ($N = 59, 27\%$) and a pediatrician ($N = 41, 19\%$). Nine percent of the respondents listed specialty care and quality obstetrical care as recommendations. Eight percent of the women in the survey listed modern medical equipment as needed improvements in the local health care delivery system. Increasing the number of physicians in the County, quality family care, and personalized physician care were recommendations made by 7% of the respondents. Seventy-nine and three-tenths percent of the sample requested location of new health services in Tooele City; 11.4% requested new services be located in Grantsville.

The recommendations were collapsed into five categories: Specialty care, competency and quality care, up-to-date medical facilities, personalized care and women's health services (Table 20). The categories describing professional care and medical equipment had the highest percentage of responses. The distributions were: Specialty care, 57%; competency and quality care, 24%; and up-to-date medical facilities, 14%. The category including personalized care items had a total response rate of 11%.

The population surveyed listed recommendations indicating a primary concern with the quality of care, inclusive of both professional competency and medical equipment available. The association of quality care with specialty care by residents of Tooele County indicates a need for a community education program to explain the different levels of care within the medical care system. If the trend of

Table 20
 Recommendations Combined Into Five Categories

	Number of Respondents
Specialty care	
Obstetrician	59
Pediatrician	41
Ophthalmologist	2
Specialists	20
Surgeon	1
Total	123 (57%)
Competency and quality care	
Quality o.b. care	21
Quality family care	17
Competent physicians	14
Physician refer appropriately	1
Total	53 (24%)
Medical facilities	
New hospital	4
Modern equipment	19
Fetal monitor	8
Total	31 (14%)
Personalized care	
Physicians	17
Nurses	8
Total	25 (11.7%)
Women's services	
Parenting and childbirth classes	12
LeBoyer delivery	2
Contraceptive information for teenagers	1
More information of women's health problems	3
Pap smear clinic	5
Breast-feeding organization	3
Husband present for labor and delivery	6
Total	32 (14%)

*Specialty care, competency and quality care, medical facilities, personalized care, and women's health services.

Note. Percentages computed by dividing the total frequency of each category by the number of respondents (214).

residents seeking health care outside the County is to be reversed, the community must understand that quality primary care has the same parameters in Tooele as in any other setting.

CHAPTER IV

SUMMARY AND RECOMMENDATIONS

A questionnaire study was carried out to identify the causal factors in the selection of a source of health care by women residents of a rural county in Utah. Two research questions were posed:

1. What are the demographic characteristics associated with existent patterns of utilization of women's health services in this community?

2. What are the consumer's perceptions of the factors that influence the choice of a source of care?

A total of 214 women responded to the questionnaire. A response rate of 46% was tabulated by subtracting from the total number of questionnaires mailed from the number returned because of no forwarding address. The respondents were women residents of Tooele County, Utah, who gave birth in 1975. Of the 214 respondents, 23% delivered in Tooele County and 77% delivered outside the County.

The sample included women ranging in age from 16 years to 43 years. Twenty percent of the population reported this as their first pregnancy. The range of length of residency was from 1 to 37 years with a mean of 13.27 years. Birth certificate data for Tooele County (1975) was reviewed to establish sample and tool validity.

Descriptive Data

Chi-square analyses of demographic data with source of obstetrical care was not significant. The disproportion between the size of the two groups may have been a contributory factor. However, there were some positive tendencies. For those women who chose to deliver outside Tooele, there was a high proportion of women between the ages of 20 and 29. The educational level was higher for this group than for the women who elected to receive care in Tooele. The percentages for previous live births was similar for both groups. The third to fifth year of residency was associated with the highest incidence of births outside the County.

Based on current obstetrical literature (Hellman & Pritchard, 1971), the demographic characteristics describing those women who sought care outside Tooele are associated with a low risk population who would be eligible for care at the primary level. The recommendations of the Committee on Perinatal Health state that care at the primary level should be limited to "the management of uncomplicated labor and delivery of a normal term fetus" (Ryan, 1975, p. 376). The personnel requirements at this level are for "physicians with special interest, experience, and training in maternal and neonatal care. Consultation should be readily obtainable with specialists at Level II and Level III units" (p. 377). All deliveries should be attended by a physician or, by "a certified nurse-midwife acting under the direction of a physician" (p. 378).

Objective Data

The incidence of health problems during pregnancy, labor and delivery, and the postpartum period reported by both groups was very similar (a differential of less than 10%). There was also little difference (less than 5%) in the reported health problems of the infants. Yet the majority of women (92.1%) who decided to seek care outside the County, chose a specialist for their care provider. No medical record audit was done to determine if the health problems encountered by Group 2 demanded specialty care. But the relatively low incidence of reported problems (35%) and the associated demographic data suggest a low risk obstetrical population that would be eligible to deliver at Tooele Valley Hospital.

When the respondents were asked to identify sources of health care for themselves and their child(ren), a clustering of care was noticed. Women who sought obstetrical services in Tooele (Group 1) also tended to get their general health needs and those of their child(ren) met in Tooele. Women who chose obstetrical care outside the County (Group 2), also chose other sources of care for themselves and their child(ren) outside the County. Data was not collected to explain if the woman's decision to seek obstetrical care outside Tooele was subsequent to an already established pattern of care, or whether her obstetrical care was the initiating factor that resulted in subsequent medical and health care services being sought outside the County. Prenatal care is characterized by frequent provider visits within a relatively short period of time. This type of care

encourages the development of a strong patient-provider relationship. A positive childbearing experience may be an important factor in reversing the loss of residents to care sources outside the County.

For the working woman, the convenience of having the care provider in the same community as the location of employment was thought by the researcher to be an important variable. However, the data collected indicated that the majority of the respondents (76.2%) were not employed during their last pregnancy. Of the 51 women (23.8%) who were employed, 43 (86%) were employed in Tooele.

Subjective Data

This section dealt with the woman's perception of the factors that influenced her selection of a particular health service.

For those women choosing to seek care in Tooele County, the following items were identified as being most important in their selection of a care provider: The provider living in the same community (60%); ease of travel to see the provider (70.8%); and, the hospital used by the provider (65.3%). These items relate to issues of convenience, and suggest that many of the women choosing care in Tooele may lack the mobility to seek care elsewhere. The hospital appears to have been ranked as important because of its location rather than services it offers (see discussion on care quality factors).

Economic factors were mentioned 12.2% more frequently by those women choosing care in Tooele than by the group that received care outside the County. Looking at the demographic characteristics of Group 1, the higher incidence of women in the younger (<19 years) and

older (≥ 30) age groups and the proportionally lower educational level reported, may have been contributory factors to the high ranking of convenience and economic variables.

For those women choosing their obstetrical care outside Tooele, another set of variables were identified as most important in the choice of a provider. The quality of care factors (physician, nursing, and hospital care) were consistently scored higher by Group 2 than by Group 1. Of Group 2, 81.4% ranked physician care as excellent, while 52.1% ranked physician care as excellent in Group 1. Nursing care was ranked by 71.4% of Group 2 as excellent while 31.3% of Group 1 ranked this category as excellent. The greatest discrepancy between Group 1 and Group 2 in this section was in rating hospital care (40.6%). Of Group 1, 31.3% rated hospital care as excellent, while 71.9% of Group 2 ranked hospital care as excellent. However, if the columns "good" and "excellent" are combined, a difference of less than 3% exists between the two groups.

The differences in the rating of care for physicians, nurses, and hospitals by Group 1 and Group 2 may indicate an assumption by both groups that specialty care is better and that urban services provide better care than rural services. To reverse the trend of residents seeking care outside the County, it may be necessary to educate the community on the different levels of care within the medical care system and the associated parameters of quality care. Most health care problems fall into the category of primary care. The parameters that define quality primary care are the same for Tooele, Salt Lake City, or any other location. At secondary and tertiary health care

institutions, specialized personnel and equipment are available to manage the complicated illnesses. The providers at the primary level are responsible for referring in patients who are in need of more specialized care.

Another factor listed by Group 2 as important in the choice of a provider, was the history of previous care experience. The proportion of nuliparous and multiparous women was approximately the same for both groups. Yet women seeking obstetrical care outside Tooele ranked a previous experience as important; while women seeking care in Tooele did not consider this an important variable.

To check for reliability of consumer opinion, patterns of utilization were compared with consumer statements of factors involved in the selection of a care provider. The decision components were collapsed into the four categories of convenience, i.e., sociopsychological factors, care quality factors, and economics. A single mean was computed for each category and a two-tailed t -test computed for significance. Convenience and care quality factors were found to be significant at the .001 level. Economic factors were significant at the .01 level ($p = .016$) Sociopsychological factors were not significant ($p = .529$). For that part of the population that listed convenience and economic factors as important variables in the selection of a health care provider, the data show they chose a source of care to meet those needs. They elected to receive care in Tooele. Those who started care quality factors (quality of physician, nursing, and hospital care) were important in the selection of a care provider chose to go outside the County where specialty care was available.

Each group determined their priorities and sought out a form of health care that they perceived would best meet their needs.

As the frequencies indicated in Tables 18 and 19, the ranking of recommendations for local health services by Group 1 and Group 2 was similar. Less than 50% of both groups ranked waiting time during office visits as most important. Fifty percent of Group 1 and 47.1% of Group 2 listed childbirth education and parenting classes as most important. A higher percentage of women receiving care outside Tooele listed husband present during labor (88.2%) and rooming-in (77.1%) as most important. At the time the study was conducted, not all the providers in Tooele encouraged father participation in labor and delivery, nor was there an official rooming-in policy for the obstetrical unit at the hospital. Although not significant by Chi-square analyses, these two items may have been contributory factors for some women in their selection of a care provider.

The responses to open-ended questions asking for recommendations fell into five definitive categories. The population indicated a primary concern with care quality factors such as professional competency and equipment available. Socio-psychological factors such as personalized care were also identified as a high priority by the respondents.

In summary, responses to the questionnaire provided the following profile of women who sought care outside the County. The demographic data collected described this group as having a higher incidence of women between the ages of 20 and 29 years. This group reports a higher educational level for the woman and her spouse than the group

choosing to remain in Tooele. Quality care factors were ranked more highly by this group than by women choosing a care provider in Tooele. Women choosing obstetrical care outside the County, also tended to get their general health and medical care needs and those of their child(ren) met outside the County. These characteristics describe a population that is mobile and willing to seek a source of care that meets their needs.

The relationship of obstetrical care to other sources of care indicates that obstetrical care does effect other patterns of utilization. Underutilization of obstetrical services at Tooele Valley Hospital may also result in underutilization of other services.

Reversing the trend of residents seeking primary care outside the County may require a community education program that defines the different levels of care and associated quality of care factors. This reversal will also depend on local availability of services that were ranked highly by women seeking care outside the County. Fathers present during labor and delivery, rooming-in, and increased availability of parenting and childbirth education classes are examples of services that may be effective in recruiting residents to stay in Tooele for their health care.

Limitations of the Study

1. The length of the questionnaire may have adversely affected the response rate.
2. A more carefully worded cover letter may have encouraged a higher return rate. Some women who received care outside the County called the Resource Council unsure of why they received a

questionnaire. Since they did not use the health services in Tooele, they didn't understand why they should complete the questionnaire. This may also be true for other women who did not call for clarification.

3. The lack of financial resources which prohibited the mailing of a second questionnaire with the reminder letter may have contributed to a lower return rate.

4. Descriptive data inadvertently excluded from the final questionnaire form (income level, religious preference) may have been contributive variables.

5. No valid, reliable tool was available to test consumer opinion. This measurement tool, developed by the researcher, is therefore subject to further study.

6. The variables listed under socio-psychological factors were vague. More specific statements may have resulted in significant findings.

Recommendations for Future Study

1. Conduct a similar study in a different population to identify additional decision components that should be included in the measurement tool.

2. Further testing of the modified tool to further establish validity and reliability of the tool.

3. Limit further studies to more narrowly defined aspects of the research, i.e., further definition of sources of information, or further clarification of factors contributing to the choice of a care provider.

5. Repeat survey with a modified tool after the introduction of new services for women.

APPENDIX A

DEMOGRAPHIC DATA, TOOELE COUNTY

Population

Total population of County (1976): 21,545. The growth rate between 1960-1970: 20.6%. Total population of Tooele City (1976): 12,539. The growth rate between 1960-1970: 37.3%. Source: Utah Health Profile, prepared by the Utah Center for Health Statistics, Utah State Division of Health, July 1972.

Minority population: 6%, Goshute Indians, Chicanos, and Blacks. Source: 1976 Statistical Abstract of Utah, Bureau of Economic and Business Research, College of Business, University of Utah.

<u>Years</u>	<u>Males</u>	<u>Females</u>
0- 4	1,167	1,118
5- 9	1,266	1,144
10-14	1,370	1,289
15-19	1,472	1,410
20-24	1,114	1,053
25-29	846	806
30-34	647	557
35-39	637	644
40-44	598	637
45-49	657	609
50-54	624	594
55-59	647	557
60-64	425	410
65-69	311	286
70+	378	485
Total	<u>12,227</u>	<u>11,818</u>

Source: Dr. Yun Kim, Utah State University.

Education

1970, persons \geq 25 years of age

<u>Median</u>	<u>% <5 years</u>	<u>% High School Graduates</u>	<u>% 4 Years Coll.</u>
12.3	1.7	60.7	9.9

Source: 1976 Statistical Abstract of Utah, Bureau of Economic and Business Research, College of Business, University of Utah.

Income

1970 income per capita:

	<u>Tooele</u>	<u>Utah</u>	<u>United States</u>
1970	3,372	3,227	3,966
1971	3,423	3,437	4,195
1972	3,638	3,740	4,537
1973	4,013	4,473	5,448

Source: 1976 Statistical Abstract of Utah, Bureau of Economic and Business Research, College of Business, University of Utah.

Health Manpower

Medical: Six general practitioners; one general surgeon; two physicians (Tooele Army Depot).

Dental: Seven dentists; one orthodontist (visits).

Vision: Three optometrists; one ophthalmologist (one day/week).

Physical Therapy: One weekly visit from Salt Lake.

Chiropracter: Two

Podiatrists: Two (visit)

Nursing: Total number in County unknown.

Health Facilities

Tooele Valley Hospital: 38 beds; facilities (clinical laboratory, diagnostic radiology, physical therapy, emergency services); nursing staff (11 RN's, 5 LPN's, 12 aides).

Tooele Valley Nursing Home: 51 beds, 100% occupied (skilled nursing and intermediate care facility).

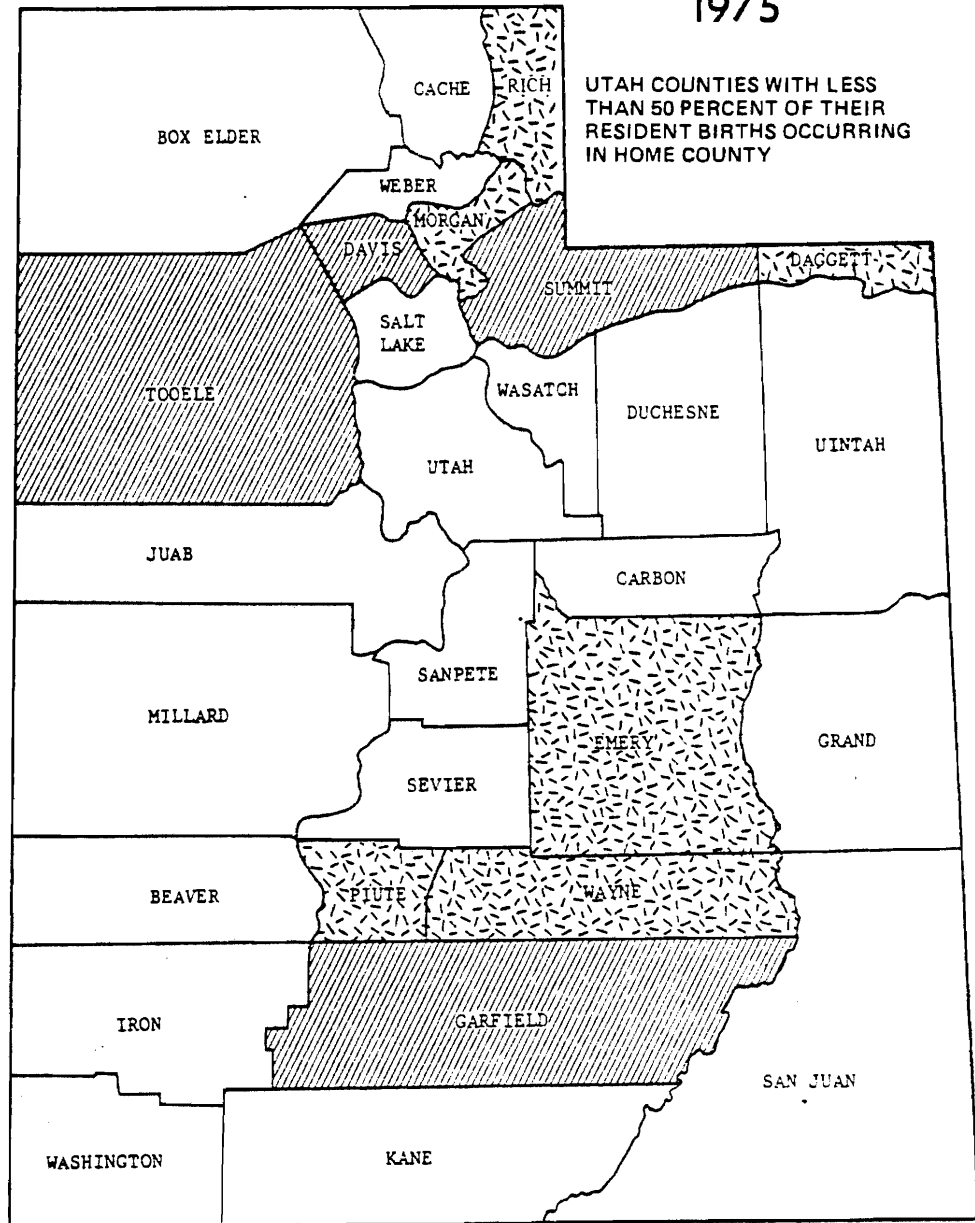
Tooele Mental Health Clinic: Psychiatrist provides medical back-up; limited outreach services; drug and alcohol program.

Crisis Center: Acts as referral source to other agencies in community.

Health Department: School health; well-baby clinics; limited home visiting.

UTAH STATE DIVISION OF HEALTH BUREAU OF HEALTH STATISTICS

1975



APPENDIX B

COVER LETTER

COMMISSIONERS

George Buzianis
Chairman
James R. Palmer
Everett DeLaMare



Assistance Payments Admin.
Community Youth Services
Division of Family Services
Vocational Rehabilitation
Human Relations Resource Ctr. - Ogden
Master Academy
MRAU / ARC
Tooele County School District
Resource - Tooele Army Depot
Tooele County Manpower Office
Second Dist. Juvenile Court
Tooele County Council on Aging
Tooele County Crisis Center
Tooele County Drug and Alcohol Council
Tooele County Public Health Dept.
Tooele Mental Health Clinic
Tooele County Sheriff
Tooele City Police
Tooele County USU Extension Div.
Utah Dept. of Employment Security

TOOELE COUNTY RESOURCE COORDINATING COUNCIL

"Unity brings strength"
882-5550

47 S. Main St., Tooele, Utah 84074

October 20, 1976

Dear Resident,

A major organization in the United States, the Robert Wood Johnson Foundation, currently has money available for the development of health services within small communities. Tooele County is submitting an application for this money. In writing the application, it is important to provide information showing areas of health needs.

You were selected as a part of a sample of Tooele County residents to receive a questionnaire about community health services. The attached questionnaire focuses on women's health services in the county. The goal of this survey is to identify what the consumer considers to be the important issues in the delivery of health care. Although the questionnaire may seem long, it only takes 10-15 minutes to complete. The Tooele County Resource Coordinating Council urges you to answer all questions and to return the questionnaire in the enclosed self-addressed, stamped envelop by October 31st.

Your answers will be held in strict confidence; you will not be individually identified with your responses. The information collected will be used for planning women's health services in the County. Copies of the final report will be available through the Tooele County Resource Coordinating Council in about three months.

Thank you for your cooperation.

Sincerely,

Kenneth B. Gowans
Chairman

APPENDIX C

LEAFLET DISTRIBUTED TO RESIDENTS

A T T E N T I O N

A national organization has money available for the development of health services in small communities. Health care providers in Tooele County are currently submitting an application to this organization. If the application is accepted, some of the money received will be used to improve women's health services in Tooele County.

If your household has been selected as part of a sample of Tooele County residents, you will receive a questionnaire that focuses on women's health services. Please complete the questionnaire and return it by the stated deadline. Take this opportunity to have input into the planning and development of local health services.

Thank you for your cooperation.

David R. Garr
Medical Director
Family Practice Group

Kenneth B. Gowans
Chairman
Tooele County Resource
Coordinating Council

APPENDIX D

NEWSPAPER ARTICLE

"Tooele Clinic Hopes To Receive Grant"

"A large funding grant to improve local health care could be awarded to the Tooele Family Practice group if local residents are willing to fill out health information questionnaires.

According to Tooele Doctor, David Garr, the grant, offered by the Robert Wood Johnson Foundation, could significantly upgrade health service throughout Tooele County.

The foundation founder was the director of the familiar Johnson and Johnson Corporation, makers of a variety of personal hygiene products.

The Family Practice Group of Tooele is currently applying for funding as one of 25 model sites that could receive a maximum amount of \$400,000 each.

Dr. Garr said the foundation has set aside several million dollars to develop the 25 model rural practice sites across the nation.

'There has been more interest shown by federal and private organizations in the development of rural health care systems that utilize a family-centered approach,' Dr. Garr explained.

He said, since a major part of the application for funding will be the identification of local health care needs, the Tooele County Resource Coordinating Council is working with the Family Practice Group in collecting information about local health care needs.

'One of the areas of health needs that needs to be defined is that of women's health care services,' Dr. Garr explained. 'A

questionnaire focusing on this area of health care will be mailed to a sample of Tooele County residents.'

'We hope that everyone receiving questionnaires will return them promptly to enable early funding by the Johnson Foundation,' said Dr. Garr." (Transcript, 22 October 1976)

APPENDIX E

REMINDER LETTER

COMMISSIONERS

George Buzianis
Chairman
James R. Palmer
Everett DeLaMare



Assistance Payments Admin.
Community Youth Services
Division of Family Services
Vocational Rehabilitation
Human Relations Resource Cntr. Duway
Master Academy
MRAU - ARC
Tooele County School District
Resource - Tooele Army Depot
Tooele County Manpower Office
Second Dist. Juvenile Court
Tooele County Council on Aging
Tooele County Crisis Center
Tooele County Drug and Alcohol Council
Tooele County Public Health Dept.
Tooele Mental Health Clinic
Tooele County Sheriff
Tooele City Police
Tooele County - JSU Extension Div.
Utah Dept. of Employment Security

TOOELE COUNTY RESOURCE COORDINATING COUNCIL

"Unity brings strength"

882-5550

47 S. Main St., Tooele, Utah 84074

November 4, 1976

Dear Resident,

A little over a week ago you received a yellow questionnaire on women's health services in Tooele County. Because you were selected as part of a sample of residents, your response is important. Please complete the questionnaire and return it to the Tooele County Resource Coordinating Council, 47 So. Main Street, Tooele, Utah 84074.

The purpose of the survey is: (1) to find out where residents go for their health care (Tooele County, Salt Lake County, etc.), and (2) the reasons behind the choice of a particular health care provider. The information collected from the survey will be used for planning women's health services in the County.

Your answers will be held in strictest confidence; you will not be individually identified with your responses. If you have already returned the questionnaire, please ignore this letter.

Sincerely,

Kenneth B. Gowans
Chairman

APPENDIX F
QUESTIONNAIRE

OBSTETRICAL CARE

The following questions are about the health care you received during your last pregnancy.

Pregnancy:

1. Compared with other women my age, my pregnancy was:
Difficult _____ Average _____ Easy _____
2. Were you employed during this pregnancy? No _____ Yes _____ If yes, where?
Tooele County _____ Salt Lake County _____ Other County _____
3. Whom did you see for prenatal care during your pregnancy (i.e., your health care provider)?
Family Physician _____ Obstetrician _____ Certified Nurse-Midwife _____
Naturopathic Physician _____ Other _____ No One _____
4. Where was this person whom you saw for your care located?
Tooele County _____ Salt Lake County _____ Other County _____
5. How many times did you see your health care provider during this pregnancy? _____

Rank the following reasons according to how important they were to you in choosing this health care provider:

Reasons: (Circle one number for each reason) 1 2 3 4 5
Low High

Convenience:

- | | | | | | |
|--|---|---|---|---|---|
| 6. He/she was in the same community where I lived | 1 | 2 | 3 | 4 | 5 |
| 7. He/she was in the same community where I was employed | 1 | 2 | 3 | 4 | 5 |
| 8. He/she was in the same community where I shopped | 1 | 2 | 3 | 4 | 5 |
| 9. It was easy to travel to see him/her | 1 | 2 | 3 | 4 | 5 |

Personal Preference:

I wanted a specific health care provider because:

- | | | | | | |
|--|---|---|---|---|---|
| 10. He/she was recommended by another medical person | 1 | 2 | 3 | 4 | 5 |
| 11. He/she was recommended by a friend | 1 | 2 | 3 | 4 | 5 |
| 12. He/she has a pleasing personality | 1 | 2 | 3 | 4 | 5 |
| 13. He/she delivered my previous child(ren) | 1 | 2 | 3 | 4 | 5 |

<u>Subject:</u>	<u>Prenatal</u>	<u>Prenatal</u>	<u>Previous</u>	<u>Other</u>	<u>Provided No</u>	<u>Wished More</u>	
	<u>Visits</u>	<u>Classes</u>	<u>Pregnancy</u>	<u>Source</u>	<u>Information</u>	<u>Yes</u>	<u>No</u>
Breast preparation for breast feeding (if not applicable leave blank):	___	___	___	___	___	___	___
Body changes in pregnancy:	___	___	___	___	___	___	___
Signs of labor:	___	___	___	___	___	___	___
Breaking of bag of water:	___	___	___	___	___	___	___
Meaning of bloody show:	___	___	___	___	___	___	___
When to go to the hospital:	___	___	___	___	___	___	___
Pain relief in labor:	___	___	___	___	___	___	___

50. Did you have any health problems during this pregnancy? No ___ Yes ___

Specify _____

Labor and Delivery:

51. In what year did your last delivery occur? _____

52. Location of delivery: Tooele Valley Hospital ___ Home ___ Hospital in Salt Lake County ___ Other ___

53. Did you have any health problems during your labor and delivery?
No ___ Yes ___

54. If you did have health problems during your labor and delivery, please specify.

55. What was the birth weight of your infant? _____ Lbs. _____ Ozs.

Did your infant have any health problems:

56. At birth and/or in the hospital? No ___ Yes ___ If yes, please specify.

57. At home during the first month? No ___ Yes ___ If yes, please specify.

82. What do you think about the quality of care you received during your childbirth experience? Worse Than I Expected _____ About What I Expected _____ Better Than I Expected _____
83. What did you like the most about the care you received during your childbirth experience? _____

84. What did you like the least about the care you received during your childbirth experience? _____

GENERAL HEALTH CARE

85. For my age, my health is: Better Than Average _____ Average _____ Worse Than Average _____
86. When did you have your last pap smear (test for cancer of the cervix)?
Never Had One _____ Within the Past Year _____ Within the Last Two Years _____
More Than Two Years Ago _____
87. Where did you have your last pap smear done?
Never Had One _____ Tooele _____ Salt Lake City _____ Other _____
88. Do you know how to examine your breasts? No _____ Yes _____ If yes, how often do you examine them? Once a Month _____ Every Two to Three Months _____
Seldom _____ Never _____
- Where do you go for:
89. Family planning information: Tooele County _____ Salt Lake County _____
Other County _____ Not Applicable _____
90. Family planning services: Tooele County _____ Salt Lake County _____
Other County _____ Not Applicable _____

INFORMATION FOR PLANNING HEALTH SERVICES

This last section is for information needed to plan women's health care services in Tooele County. Your opinions and suggestions are needed so that the most desirable and effective services can be made available in the future.

Rank the following items in order of importance to YOU:	1	2	3	4	5
	Low				High
<u>Type of care:</u>					
91. Personalized, individualized care	1	2	3	4	5
92. Answers my questions	1	2	3	4	5
93. Minimum waiting time to see provider	1	2	3	4	5
94. Explains medical procedures	1	2	3	4	5
95. Explains results of procedures or tests	1	2	3	4	5
<u>Obstetrical care:</u>					
96. Childbirth education and parenting classes	1	2	3	4	5
97. Husband encouraged to attend prenatal visits	1	2	3	4	5
<u>Hospital care:</u>					
98. Personalized, individualized care	1	2	3	4	5
99. Husband welcome during labor and delivery if desired by both of you	1	2	3	4	5
100. Type of pain medication available	1	2	3	4	5
101. Option of LeBoyer delivery (quiet room, dim lights, etc.)	1	2	3	4	5
102. Able to have baby with you as much or as little as you desire throughout the hospital stay	1	2	3	4	5
103. Able to have husband visit at any time	1	2	3	4	5
104. Able to have children visit you and baby	1	2	3	4	5
105. What health care services would you like to have available in Tooele County?					
<hr/>					
106. Located where? Tooele _____ Wendover _____ Ibapah _____ Grantsville _____					
Other _____ If other, please specify _____					
107. What recommendations or suggestions do you have for women's health care in Tooele County?					
<hr/>					

GENERAL INFORMATION:

108. Age _____
109. Number of living children _____
110. How long have you lived in Tooele County? _____ Months _____ Years
111. For routine medical check-ups you go to:
Tooele County _____ Salt Lake County _____ Other _____ Don't Go _____
112. For routine medical check-ups your child(ren) go to:
Tooele County _____ Salt Lake County _____ Other _____ Don't Go _____
113. When sick you go to:
Tooele County _____ Salt Lake County _____ Other _____ Don't Go _____
114. When sick your child(ren) go to:
Tooele County _____ Salt Lake County _____ Other _____ Don't Go _____
115. What is the highest level of education achieved by: (please check one for each person)

	<u>You</u>	<u>Your Spouse</u>
0-6 Grades	_____	_____
7-9 Grades, Junior High School	_____	_____
10-11 Grades, Some High School	_____	_____
High School Graduate	_____	_____
At Least One Year College	_____	_____
Graduate, Four Years College	_____	_____
Post Graduate, College	_____	_____

116. What is the occupation of the head of the household: (please check one)
- | | |
|--|--|
| _____ Student in High School, Trade School | _____ Service Worker |
| _____ College Student | _____ Salesman |
| _____ Laborer, Farm Laborer | _____ Clerical |
| _____ Construction, Heavy Equipment Operator | _____ Proprietor, Manager, Business or Agriculture |
| _____ Craftsman, Carpenter | _____ Professional (i.e., Teacher, Engineer, etc.) |

APPENDIX G

CODING OF QUESTIONNAIRE ITEMS

Item 1, the patient's rating of her pregnancy compared to that of other women, was scored 1 if rated difficult; 2 if rated average; and 3 if rated easy.

Item 2, dealt with employment during pregnancy, with a negative response coded as 0, and an affirmative response coded as 1. If employed, where employed was coded as follows: 1, Tooele County; 2, Salt Lake County; and 3, Other.

Items 3, 4, and 5 dealt with type of provider seen, location, and number of prenatal visits. Type of provider was coded: 1, family physician; 2, obstetrician; 3, certified nurse-midwife; 4, naturopathic physician; 5, other; 6, no one.

Location of the provider was coded the same as item 2: 1, Tooele County; 2, Salt Lake County; 3, other.

The actual number of prenatal visits was coded for item 5.

The decision components reflecting consumer opinion about why a particular health service was utilized (items 6-18) were coded on a five-point scale. A score of 1 indicated lowest importance and a score of 5 indicated highest importance.

Items 19 through 21 dealt with prenatal classes. Attendance at prenatal classes was coded as 0 when no was checked, as 1 when the response was yes. Number of times attended classes was coded as the number (item 19). Items 20 and 21 were open-ended questions that were categorized later.

Items 22 through 49 and 63 through 81 dealt with sources of information during pregnancy and the postpartum period. Coding was progressive with no information being 0; each successive source coded

as 1, 2, 3, or 4. A total score indicating the number of different sources was also coded. A need for more information was coded as 1; no additional information was coded as 0. This data was collected for purposes of future analysis and are not presented in this study.

Health problems (items 50, 53, 54, 56, 57, and 63) encountered by the woman and her infant at any point during the childbearing experience and up to six weeks postpartum were coded nominally and later categorized.

The year of the respondent's last delivery (item 51) was coded in two digits. The location of the delivery (item 52) was coded: 1, Tooele Valley Hospital; 2, home; 3, hospital in Salt Lake County; 4, other.

Birth weight of the infant (item 55) was coded in grams.

Quality of care during labor and delivery (items 58-60) were coded as follows: If the respondent marked poor, her score was coded as 1; if marked fair, her score was coded as 2; if marked good, her score was coded as 3; and if marked excellent, her score was coded as a 4.

Item 61 referred to visits to care provider prior to six-week postpartum check. No was coded as a 0, and yes, coded as a 1.

Item 62 where the respondent went for her six-week postpartum check was coded as follows: 1, Tooele County; 2, Salt Lake County; 3, other; 4, did not see anyone.

Items 63-81, sources of information, were discussed earlier with items 22-49.

Overall quality of care (item 82) was coded with a 1; if worse than expected was marked, with a 2 if about one-half expected was marked; and with a 3 if better than expected was marked.

Items 83 and 84 dealt with the patient's subjective responses to favorable and unfavorable facets of care. These were open-ended questions which were grouped later for purposes of comparison.

Item 85, the respondent's rating of her health compared to that of other women, was scored 1, if rated better than average; 2, if average; and a 3 if worse than average.

Items 86 and 87 referred to the time of the last pap smear. The coding was done as follows: 0, never had one; 1, within the past year; 2, within the last two years; 3, more than two years ago. Where the last pap smear was done was coded: 0, never had one; 1, Tooele County; 2, Salt Lake County; 3, other.

Breast self-examination (item 88) was coded 0 if the women indicated she did not know how to examine her breasts, and coded 1 if she responded in the affirmative. How often she examines her breasts was coded 0 if she responded never; 1, if once a month; 2, if every 2-3 months; 3, if seldom.

Family planning information and services (items 89 and 90) were coded 1, if the woman utilized services in Tooele; 2, if in Salt Lake County; 3, if in another county; and 4, if not applicable.

Recommendations (items 91 through 104) were coded on a scale from 1 to 5 with 1 being of lowest importance and 5 being of most importance. Items 105 and 107 were open-ended questions. These recommendations were categorized later. Item 106 asked for desired

location of health services. If the respondent listed Tooele, it was coded 1; if Wendover, it was coded 2; if Ibapah, it was coded 3; if Grantsville, it was coded 4; and if another site, were coded 5.

Remaining items were coded on a nominal basis. Items 108 through 110 dealt with age, number of living children, and years lived in Tooele County.

Items 111 through 114 referred to where the woman and her child(ren) went for their annual exams and for sick care. These responses were coded as follows: 1, Tooele County; 2, Salt Lake County; 3, other; 4, none; 5, Tooele and Salt Lake County; and 6, Tooele and other.

Educational status of the respondent and her spouse were dealt with in items 115 and 116. Item 117 referred to occupation of head of household.

REFERENCES

- Alpert, J., Kosa, J., & Haggerty, R. Medical help and maternal nursing care in the life of low income families. Pediatrics, 1967, 39(5), 747-755.
- Association of American Medical Colleges. Datagrams, March 1962, 3(9).
- Baumann, B. O. Diversities in conceptions of health and physical fitness. Journal of Health and Human Behavior, 1961, 2(1), 39-46.
- Bashshur, R. L., Shannon, G. W., & Metzner, C. A. Some ecological differentials in the use of medical services. Health Services Research, Spring 1961, 61-75.
- Conway, J. The beneficiary, the consumer: What he needs and wants. American Journal of Public Health, 1965, 55(11), 1782-1786.
- Dickerson, F. G. Supply of physician's services. Bulletin 81. Chicago: Bureau of Medical Economic Research, American Medical Association, 1951.
- Donabedian, A., & Rosenfeld, L. B. Some factors influencing prenatal care. New England Journal of Medicine, 1961, 265(1), 1-6.
- Feldman, J. J. The household interview survey as a technique for the collection of morbidity data. - Journal of Chronic Disease, 1960, 11, 535-557.
- George, V. M. P.L. 93-641, Title XV and Title XVI, Public Health Service Act. Nurse Practitioner, September-October 1976, 17-19.
- Graham, S. Socio-economic status, illness and the use of medical services. Milbank Memorial Fund Quarterly, 1957, 35(1), 58-66.
- Hachbaum, G. M. Consumer participation in health planning: Toward conceptual clarification. American Journal of Public Health, 1969, 59(9), 1698-1705.
- Hazell, L. P. Birth goes home. Seattle: Catalyst Publishing Co., 1974.
- Hellman, L. M., & Pritchard, J. A. Williams obstetrics (14th ed.). New York: Appleton-Century-Crofts, 1971.
- Hessler, R. M., & Walters, M. J. Consumer evaluation of health services: Implications for methodology and health care policy. Medical Care, 1975, 13(8), 683-693.

- Hulka, B., & Cassel, J. The AAFP-UNC study of the organization and assessment of primary medical care. American Journal of Public Health, 1973, 63(8), 429-435.
- Jolly, C., Held, B., Caraway, A. F., & Prystowsky, H. Research in the delivery of female health care: The recipients reaction. American Journal of Obstetrics and Gynecology, 1971, 110(2), 291-294.
- Lebow, J. L. Consumer assessments of the quality of medical care. Medical Care, 1974, 12(4), 328-337.
- Leininger, M. An open health care system model. Nursing Outlook, 1973, 21(3), 171-175.
- Levin, L. S. The layperson as the primary health care practitioner. Public Health Reports, 1976, 91(3), 206-210.
- Madison, D. L., & Bernstein, J. D. Rural health care and the rural hospital. In Bryant, et al., (Eds.), Community hospitals and primary care. Cambridge, Ballinger, 1976.
- Maslow, A. H. Motivation and personality (2nd ed.). New York: Harper and Row, 1970.
- McKinlay, J. B. The new late comers for antenatal care. British Journal of Preventive Social Medicine, 1970, 24(1), 52-57.
- McKinlay, J. B. Some approaches and problems in the study of the use of services--an overview. Journal of Health and Social Behavior, 1972, 13(2), 115-152.
- Meade, J. M. Validity of repeating patient origin studies for rural hospitals. Public Health Reports, 1976, 91(1), 64-67.
- Mechanic, D., & Newton, M. Some problems in the analysis of morbidity data. Journal of Chronic Diseases, 1965, 18(5), 569-580.
- Navarro, V. A critique of the present and proposed strategies for redistributing resources in the health sector and a discussion of alternatives. Medical Care, 1974, 12(9), 721-742.
- Nunnaly, D. M., & Aguiar, M. B. Patients' evaluation of their prenatal and delivery care. Nursing Research, 1974, 23(6), 469-474.
- Ris, H. W. What do women want? Journal of the American Medical Women's Association, 1974, 29(10), 446-456.
- Rising, S. S. The consumer-professional balance. Journal of Nurse-midwifery, 1976, 21(3), 25-27.

- Roghmann, K. J. Looking for the medical care crisis in utilization data. Inquiry, 1974, 11(4), 282-290.
- Rosenstock, I. M. Why people use health services. Milbank Memorial Fund Quarterly, 1966, 44(7), 94-124.
- Roth, J. The treatment of the sick. In J. Kosa, et al., (Eds.), Poverty and health. Cambridge: Harvard University Press, 1974.
- Ryan, G. M. Toward improving the outcome of pregnancy. Obstetrics and Gynecology, 1975, 46(4), 375-383.
- Salber, E. J. Community participation in neighborhood health centers. New England Journal of Medicine, 1970, 274(9), 515-518.
- Schneider, J. Changing concepts in prenatal care. Post-graduate Medicine, 1973, 53(6), 71-97.
- Seggewick, R. The nurse as consultant. Nursing Outlook, 1973, 21(12), 773-776.
- Stratmann, W. L. A study of consumer attitudes about health care: The delivery of ambulatory services. Medical Care, 1975, 13(7), 537-548.
- Tagliacozzo, D. M., & Ima, K. Knowledge of illness as a predictor of patient behavior. Journal of Chronic Diseases, 1970, 22(6), 765-775.

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