

UTILIZATION AND EVALUATION OF  
MATERNITY CARE BY AMERICAN INDIANS  
IN ARIZONA

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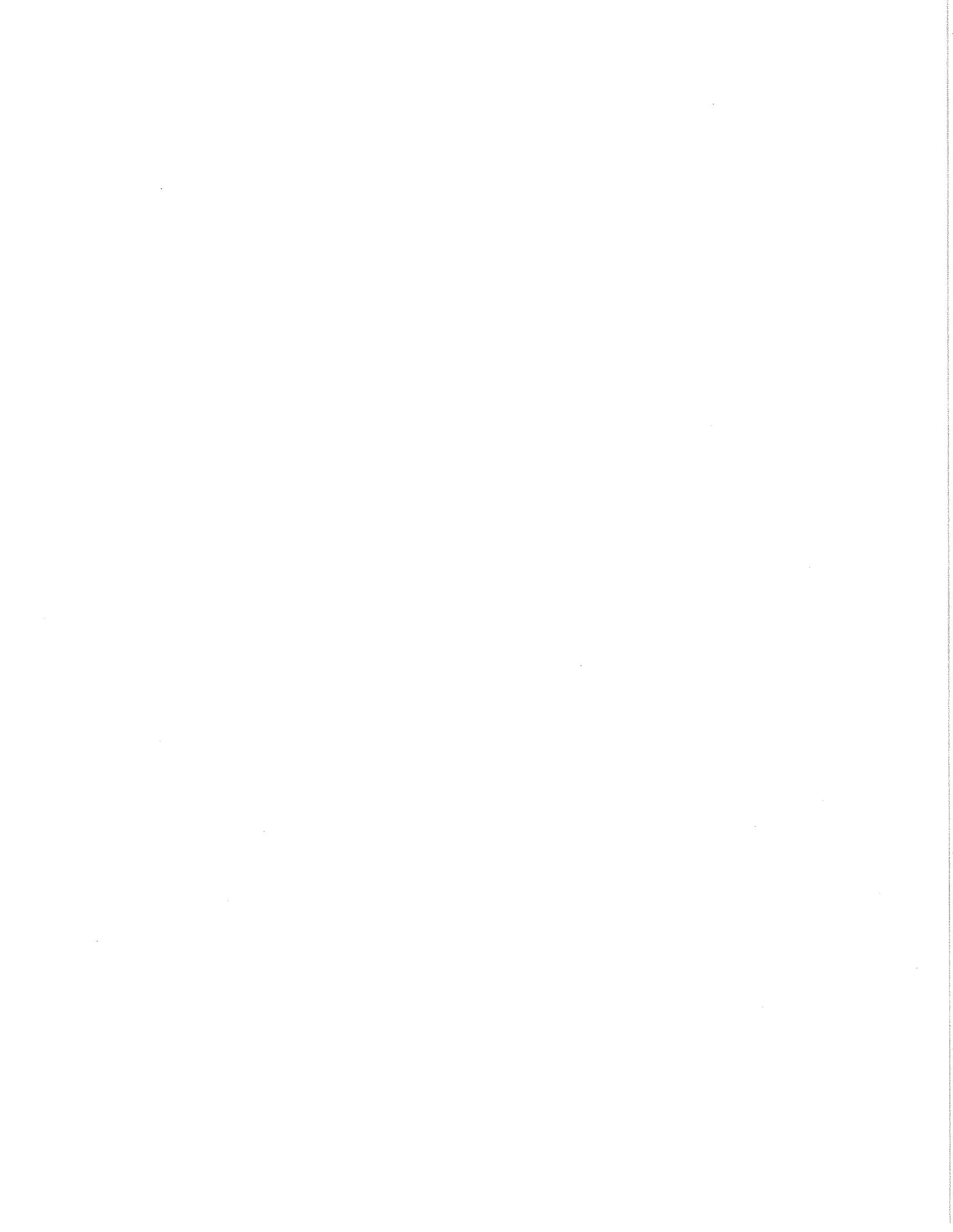
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UTILIZATION AND EVALUATION OF MATERNITY  
CARE BY AMERICAN INDIANS IN ARIZONA

ABSTRACT

Drawing upon a statewide consumer survey conducted in 1979 by the Bureau of Maternal and Child Health, this report focuses on the health service utilization and evaluation of 110 American Indians. The data show that Indians, in contrast to Anglos, have less prenatal care, a higher incidence of newborn problems, and unusually high rates of early and late discharge. The Indian women also reported a higher incidence of communication problems with their caretakers and were less satisfied with the care that they received. The discussion considers the problems of less continuity of care and personnel shortages as well as cultural differences for delivering the quality of care mandated by treaty and subsequent laws to this impoverished minority group.

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INTRODUCTION

The Federal Government assumed responsibility for providing Indian health care through a series of treaties in the late 18th and early 19th centuries. Although most of the treaties imposed time limits of five to 20 years, the Federal Government adopted a policy of continuing service after the original period. Congress again reaffirmed this policy with the passage of the Indian Health Care Improvement Act (P.L. 94-437) in 1976. This law authorized additional spending to renovate and expand Indian health care facilities and services to achieve parity with the general population.

These policies have had a great impact on maternal and child health. Slocumb and Kunitz<sup>1</sup> have documented a precipitous decline in maternal mortality in the Tuba City area of the Navajo reservation from rates of 800 to 1,000 per 100,000 in the 1930's to around 200 in the early 1950's. At this time the responsibility for Indian health care was transferred from the Department of the Interior to the Public Health Service. Between 1955 and 1975 the Indian Health Service maternal death rate declined an additional 81 percent to a rate of 15.7 per 100,000 which was only 1.2 times higher than the national figure.<sup>2</sup> This decline is particularly impressive since maternal complications among Indians remain at least 25 percent higher than those of the general population (Attico, Pers. Com.). The infant death rate similarly declined 71 percent to a level that was only 1.1 times higher than the U.S. rate. The decline in the neonatal death rate (under 28 days) is even more remarkable. By 1976 the Indian neonatal mortality rate of 9.0 was lower than the general population rate of 10.8.<sup>3</sup>

The major causes of death during the neonatal period are developmental problems and injuries sustained during birth. Consequently, the rate indirectly measures the quality of medical care as well as a lower rate of low birth weight babies among Indians.<sup>2</sup> The post neonatal component of the infant death rate reflects social and environmental conditions in addition to developmental and parturition problems. It was still 2.5 times higher in the Indian population than in the general public in 1976. The crowded living conditions, poor nutrition, substandard housing, transportation difficulties, and unsanitary water supplies as well as the social problems of low income, alcohol abuse, mental health, child abuse, and accidents remain persistent factors in the health problems of Indians.<sup>4</sup>

The impressive improvements in maternal and neonatal mortality are due primarily to the introduction of antibiotics and the increased emphasis on, and availability of, maternal and child health services as well as some improvements in the home environment. Virtually all Indian births in Arizona (98 percent) now take place in hospitals. A nurse-midwifery program provides care in more remote areas such as Tuba City, Chinle, Fort Defiance, and Whiteriver, Arizona. This program allows obstetricians to devote more time to complicated cases. Well-defined protocols have been developed to identify and, if necessary, transport high risk cases. (For an example on the Sells Reservation, see Nutting.<sup>5</sup>) The declining mortality rates are evidence that the Indian Health Service has been highly successful in providing care for acute conditions.

The Indian Health Service also tries to provide preventive care. Field contacts are used to encourage women to obtain prenatal care. Childbirth education and infant care classes are offered and the impor-

tance of good health habits and well-baby care are stressed. In Arizona more than 90 percent of all discharged maternity patients receive a home visit, usually within the first two weeks, by a health care worker (Attico, Pers. Com.). Since 1965 there has been an increased emphasis on family planning services. In Fiscal Year 1977, 29 percent of the almost 99,000 Indian and Alaska native women between the ages of 18 and 44 were given counseling, fertility, and contraceptive services.<sup>3</sup>

Other preventive measures include the stepped-up campaign to provide safe drinking water and sanitary disposal facilities as mandated by the Indian Health Care Improvement Act. The increased involvement of Indians in the management and delivery of their health care as stipulated in the Indian Self Determination and Education Assistance Act (P.L. 93-638) is intended to overcome some of the obstacles to care stemming from cultural differences.

In spite of the enormous progress in the maternal and child health of Indians, a statewide consumer survey conducted in Arizona revealed a number of important differences in the utilization, outcome, and evaluation of maternity care by Indian women in the state. This report reviews the differences and discusses some of the underlying social causes.

#### DATA AND METHODS

The Arizona Department of Health Services conducted a mail-out survey in the winter of 1979 of all resident women to whom a birth certificate had been issued between October 15 and November 15, 1978. This time period avoided spurious effects in the timing of births due to major holidays and vacation schedules. A January mail-out allowed time for the recording of births and the centralized collection of

from outlying areas in the state. Also it gave the women time to complete postpartum care.

Of the 3,773 questionnaires mailed, 145 were returned as undeliverable and 1,900, 52.4 percent of those delivered, were completed and returned by mid-March, 1979. State confidentiality did not allow a follow-up of nonrespondents. Although the return rate was lower for teenagers, those with less than 12 years of education, and those with five or more children, characteristics more prevalent among Indian women, the resulting proportion of Indian women among the respondents is approximately equal to the proportion of Indians in the State population, Table 1. These seemingly contradictory findings are due to the higher birth rate among Indian women and the lower than expected response rate of the State's largest minority, Mexican American.

The consumer satisfaction questionnaire included an introductory letter from the Bureau of Maternal and Child Health, Arizona Department of Health Services. The letter explained the purpose of the study for the Advisory Task Force on Alternatives in Maternity Care and insured confidentiality because neither the respondents nor their health caretakers could be identified.

The questionnaire, which underwent several pretests and revisions, consisted of 60 structured questions. The questions covered socioeconomic and demographic characteristics of the respondents, prenatal care, labor and delivery care and postpartum care. Two sets of questions asked about satisfaction with, and quality of, communication with caretakers during the prenatal period and during labor and delivery. Another series of questions asked respondents whether they had specific clinical procedures during labor and delivery and postpartum and whether or not

they had wanted these procedures. In addition, respondents were asked directly for evaluations of their care.

Contingency table analysis was used to investigate the differences in utilization and evaluation of maternity care between the Anglo and Indian respondents. Associations were evaluated with chi-square tests. Chi-square values having probabilities of .01 or less were considered significant.

#### RESULTS

Table 2 contains three significant differences in the prenatal care utilized by Indian and Anglo respondents. Only half the Indian respondents received prenatal care during the first trimester compared to 86 percent of the Anglo respondents. Even by the beginning of the sixth month of pregnancy, almost one-fifth of the Indian respondents had not sought care from a standard medical practitioner.

The type of care also differed. The vast majority of Anglo women received their care in a doctor's office while the majority of Indian women went to a clinic. Only one-quarter of the Indian respondents attended childbirth preparation classes compared to almost two-thirds of the Anglo respondents. The lowered attendance of Indian respondents was not due to less interest but instead was due to perennial Indian problems--unavailability of services at a reasonable distance and lack of transportation to reach those that exist.

The impact of cultural differences in rapport between patient and primary caretakers is clearly evident in the data. Indian respondents were significantly more likely than Anglo respondents to report communication problems, especially language problems, with their prenatal caretakers (Table 3). The shorter length of prenatal

care and more frequent use of clinics among Indian respondents contribute to their communication problems. However, there are still statistically significant differences between Indian and Anglo respondents on the communication measures when length of prenatal care for those who initiated care by the sixth month of pregnancy and place of care are controlled. (Tables available upon request.)

The importance of cultural difference also is evident in the more frequent reports by Indian respondents that their caretakers did not keep them adequately informed about their labor and delivery, Table 4. These differences are particularly salient since approximately the same proportion of Indian and Anglo respondents (96 and 97 percent, respectively) delivered in hospitals and reported Cesarean births (15 and 13 percent, respectively).

In spite of the similar environment for labor and delivery, there were several differences in the experience of the Indian respondents. Almost one-third of the Indian respondents were transported to a special care facility compared to 11 percent of the Anglo respondents. This difference is a direct result of the Indian Health Service's policy of moving high risk patients to appropriate facilities. Only 13 percent of the Indian women reported having their labor induced compared to 20 percent of the Anglo women. This, along with the greater freedom to move around and lower rate of episiotomies (Table 5), reflects the presence of eleven certified nurse-midwives in Indian Health Service hospitals in Arizona. On the other aspects of birthing, Indian respondents both wanted and had more medication during labor than did Anglos; however, Indians also reported receiving more medication during delivery than Anglos despite desiring it less. Indian respondents were also less likely

to want the other clinical procedures associated with the "new" obstetrics, such as having a coach, and using breathing and relaxation techniques. One interesting exception to this pattern is the greater desire among Indian women to have family members present. Table 6 contains a comparison of the postpartum experience of Indian and Anglo respondents. The Indian respondents were less likely to report paternal-infant bonding although they were more likely to report maternal-infant bonding. Communication problems are again evident. Indian respondents were less likely to report instruction in care of self and baby even though such instruction is standard policy.

The most outstanding difference in Table 6 is the length of postpartum stay. The Indian women reported unusually high rates of early and late discharge. The early discharge of low risk mothers may be linked to the desire of multiparous women to return to their families. Also, some Indian Health Service facilities have adopted a low risk early discharge program to free needed beds.

The long postpartum stays reflect both the higher ratio of maternal complications and neonatal complications, especially jaundice (Attico, Pers. Com.). Given the long distances, unimproved roads and poor transportation on many reservations in Arizona, the Indian Health Service is reluctant to release a mother without her newborn. Breathing problems, prematurity, and infections were more common among the babies of Indian respondents and resulted in hospital stays that extended beyond the release of the mother, Table 7.

The primary purpose of a consumer survey is to measure the level of satisfaction among users. It was substantially lower among Indian respondents. Only one-third reported being "very satisfied"

with their prenatal and labor and delivery care compared to about 60 percent of Anglo respondents. The gap also was present in the evaluation of postpartum care although it was less, 44 percent versus 58 percent.

#### DISCUSSION

The major findings of this study is the significantly lower level of satisfaction with maternity care among Indians in Arizona. Consumer studies such as this involve the subjective evaluation of objective experiences. In the case of maternity care, the evaluation is based on social and psychological experiences as well as specific clinical procedures and outcomes. The halo effect of a healthy baby yields an upward bias in the reported level of satisfaction. Thus, actual levels of satisfaction are probably lower than those reported by the respondents.

In other studies we have found a positive relationship between communication and choice of procedure and satisfaction with maternity care among combined cultural groups in Arizona.<sup>6, 7</sup> The results of this study indicate that these two factors play a critical role in the diminished satisfaction of the Indian respondents. Assuming that nonrespondents were more likely to be more traditional women living in extremely remote areas with less facility in the use of English, it is likely that communication problems are even greater in the Indian population. Communication problems stemming from language or, more generally, cultural differences create a barrier that can foster a mutual withdrawal on the part of caretakers and Indian patients. A promising experimental project aimed at increasing satisfaction with maternity care by developing nursing protocols in closer harmony with cultural beliefs recently has been initiated by the Navajo reservations (Milligan, Pers. Com.).

If this program is successful it may be possible to adapt its strategy to other cultural groups. However, cultural barriers are only one of the problems contributing to lower levels of satisfaction among Indian women. There is also a problem of establishing good continuity of care. The shorter period of involvement with caretakers during prenatal care, the high rate of transport for labor and delivery, and the chronically understaffed clinic environment with frequent turnover in personnel also are associated with diminished satisfaction. Evidence of personnel shortages can be found in the most recent Indian Health Service data which show a 53 percent deficit in nursing personnel and a 43 percent deficit in physician personnel compared to the general population.<sup>2</sup> There is little chance that parity with the general population, as mandated by the Indian Health Care Improvement Act, will be met by the mid 1980's. Funds are being cut rather than expanded.

The remarkably good maternal and neonatal outcomes of pregnancies, most of which would be classified as high risk as compared to pregnancies in the general population, are testimony to effective care of acute conditions. The compromises in continuity of care necessary to deliver acute care in the context of severe personnel shortages undoubtedly contribute to communication problems and consequently lowered levels of satisfaction. To reduce the frequent need to transport patients due to actual or potential complications, a greater emphasis must be placed on preventive care. The outreach program to encourage prenatal care needs to be given as much attention as the successful postpartum home visit program. It is significant that Indian respondents evaluated their postpartum care more highly than the earlier phases of maternity care. There is more contact

and more continuity in the delivery of postpartum care. Beyond a greater emphasis on prenatal care, improvements in the prevention of complications lie more in the social, economic, and environmental areas than in medical care.

The campaign to improve the sanitation of water supplies and sewage disposal provided for in the Indian Health Care Improvement Act will help greatly. More attention also needs to be devoted to the quantity and quality of housing, transportation, and nutrition. Underlying these problems is the fundamental problem of Indians being an impoverished, disenfranchised minority, dependent on the federal government for support. The psychological reaction to this social position contributes to the well-documented behavioral health problems of Indians--alcoholism, suicide, accidents, homicides, and mental illness--which affect maternal and child health.

An additional interpretation of the low levels of satisfaction with maternity care among Indian respondents may be related to the low self-esteem associated with their marginal position in the larger society. Indians and Native Alaskans are the only cultural groups who are given a separate health care system which provides free service. Free goods, the classical examples being air and water, are notoriously undervalued.

## FOOTNOTES

- <sup>1</sup>Slocumb, J. C. and Kunitz, S. J.: Factors affecting maternal mortality and morbidity among American Indians. Public Health Rep 92:349-355, 1977.
- <sup>2</sup>U.S. Department of Health, Education and Welfare: Indian Health Trends and Services. Washington, D.C.: U.S. Government Printing Office, 1978.
- <sup>3</sup>U.S. Department of Health, Education and Welfare: Selected Vital Statistics for Health Service Areas and Service Units, 1972 to 1977. Washington, D.C.: U.S. Government Printing Office, 1978.
- <sup>4</sup>Stewart, T.; May, P.; and Muneta, A.: A Navajo health consumer survey. Med Care 18:1183-1195, 1980.
- <sup>5</sup>Nutting, P. A.; Barrick, J. E.; and Logue, S. C.: The impact of a maternal and child health program on the quality of prenatal care: An analysis of risk group. J Com Health 4:267-79, 1979.
- <sup>6</sup>Sullivan, D., Beeman, R.: Satisfaction with postpartum care: opportunities for bonding, reconstructing the birth and instruction. Birth Fam J 8:153-9, 1981.
- <sup>7</sup>Sullivan, D., Beeman, R.: Satisfaction with maternity care: a matter of communication and choice. Med Care forthcoming.

TABLE 1

A Comparison of the Characteristics of Respondents with Women to Whom Birth Certificates Were Issued in Arizona, October 15 to November 15, 1978

	<u>Original Sample</u>		<u>Respondents</u>	
	N	Percent	N	Percent
<u>Age</u>				
Under 15	7	0.2	4	0.2
15-19	624	16.5	215	11.4
20-24	1,396	37.0	684	36.2
25-29	1,045	27.7	618	32.7
30-34	502	13.3	274	14.5
35-39	171	4.5	87	4.6
Over 40	28	.7	10	0.5
Unknown	0		8	
<u>Education</u>				
Under 9 Years	395	10.5	119	6.3
9-12 Years	2,254	59.7	921	48.7
13-16 Years	988	26.2	684	36.1
Over 16 Years	136	3.6	169	8.9
Unknown	0		7	
<u>Number of Children Born</u>				
1	1,529	40.5	837	44.1
2-4	1,979	52.4	961	50.6
5 or More	265	7.0	98	5.2
Unknown	0		4	
<u>Ethnic Group*</u>				
Anglo	...	72.1	1,418	74.9
Mexican American	...	18.7	273	14.4
Black	...	2.9	46	2.4
Indian	...	5.5	110	5.8
Other	...	.6	47	2.5
Unknown	...		6	

\*Arizona Birth Certificates contain information on race but not ethnicity. This does not permit identification of the largest minority--Mexican American. Therefore the percent breakdown is based on the ethnic composition of the state in 1975.

TABLE 2

## A Comparison of Indian and Anglo Prenatal Care

	Indian	Anglo
<u>Month of First Prenatal Care</u>		
	%	%
Second	29.1	62.5
Third	21.8	23.8
Fourth	18.2	6.6
Fifth	11.8	3.4
Sixth	9.1	1.3
Seventh	10.0	2.4
	<hr/>	<hr/>
N	110	1,418
	Chi Square = 119.8	
<u>Site of Prenatal Care</u>		
Doctor's Office	26.2	80.2
HMO	3.7	3.1
Clinic: County, other	59.8	14.8
Other	10.3	1.9
	<hr/>	<hr/>
N	107	1,412
	Chi Square = 194.0	
<u>Attended Childbirth Preparation Classes</u>		
Before this pregnancy	19.4	50.7
Before previous pregnancy	6.5	12.0
Did not because:		
None available	36.4	2.9
No transportation	13.1	2.8
Cesarean	4.7	4.7
Not interested	10.3	10.5
Other	9.5	16.3
	<hr/>	<hr/>
N	107	1,412
	Chi Square = 268.5	

TABLE 3

A Comparison of Indian and Anglo Reports  
of Communication Patterns During Prenatal Care

	Indian	Anglo
<u>Spent Enough Time Dis-</u> <u>cussing Problems</u>	%	%
Always	30.0	54.5
Usually	31.8	30.7
Occasionally	20.9	11.5
Never	10.9	3.0
Do Not Know	6.4	.1
N	110	1,412
	Chi Square = 103.3	
<u>Used Words I Could Understand</u>		
Always	40.0	61.3
Usually	33.6	23.0
Occasionally	15.5	7.7
Never	8.2	7.9
Do Not Know	2.7	.1
N	110	1,410
	Chi Square = 47.5	
<u>Tried to Understand</u> <u>How I Felt</u>		
Always	36.1	51.0
Usually	33.3	30.0
Occasionally	12.0	11.2
Never	8.3	4.9
Do Not Know	10.2	2.8
N	108	1,409
	Chi Square = 23.3	

TABLE 4

A Comparison of Indian and Anglo Reports  
of Communication Patterns During Labor and Delivery

	Indian	Anglo
<u>Explained What They Were Going to Do to Me</u>	%	%
Always	53.3	64.9
Usually	20.6	25.2
Occasionally	11.2	6.7
Never	12.1	3.2
Do Not Know	2.8	0
N	107	1,408
	Chi Square = 66.2	
<u>Kept Me Informed of Progress</u>		
Always	44.2	69.9
Usually	23.1	19.0
Occasionally	13.5	7.4
Never	10.6	3.1
Do Not Know	8.7	.5
N	104	1,404
	Chi Square = 90.2	
<u>Explained Choices Available</u>		
Always	41.5	63.1
Usually	17.9	16.1
Occasionally	15.1	5.3
Never	18.9	12.1
Do Not Know	6.6	3.5
N	106	1,389
	Chi Square = 29.5	

TABLE 5

## A Comparison of Indian and Anglo Labor and Delivery Care\*

	Indian	Anglo
<u>Freedom to Move Around</u>	%	%
Had	70.1	61.9
Wanted	77.9	81.6
<u>Childbirth Coach</u>		
Had	62.3	86.5
Wanted	78.2	92.9
<u>Breathing and Relaxation Techniques</u>		
Had	74.0	87.9
Wanted	78.6	91.6
<u>Medication to Relax During Labor</u>		
Had	52.8	46.7
Wanted	64.0	55.1
<u>Medication to Put Me Out for Delivery</u>		
Had	19.3	11.9
Wanted	11.7	23.0
<u>Family Members Present</u>		
Had	43.9	42.7
Wanted	65.5	51.4
<u>Episiotomy</u>		
Had	56.1	79.8
Wanted	29.4	61.0
<u>Fetal Monitor</u>		
Had	60.2	63.4
Wanted	63.5	64.3

\*Respondents with missing values for either "wanted" or "had" either because of Cesarean birth or because they chose not to answer are excluded from the table.

TABLE 6

## A Comparison of Indian and Anglo Postpartum Care

	Indian	Anglo
<u>As Soon as Baby Born</u>	%	%
Could touch or hold baby	72.9	71.1
Have father touch or hold baby	48.6	68.5
Breast feed baby	47.2	39.7
Discuss delivery	36.8	55.3
<u>During Postpartum Care</u>		
Family members visited	76.9	86.7
Given information on care of baby	73.6	81.8
Given information on care of self	76.4	85.7
<u>Length of Stay</u>		
1 - 12 hours	15.5	5.6
13 - 24 hours	6.4	19.8
25 - 48 hours	19.1	33.4
49 - 72 hours	28.2	22.8
73 + hours	30.0	16.1
Home delivery	.9	2.2
N	110	1,412

Chi Square = 45.5

TABLE 7

## Comparison of Condition of Indian and Anglo Babies

	Indian	Anglo
	%	%
<u>Healthy and Able to Go</u>	87.3	91.4
<u>Home with Mother</u>		
<u>Had to Stay in Hospital Because:</u>		
Premature	1.8	.9
Jaundice	3.7	3.2
Breathing problems	2.8	1.3
Heart problems	0	.2
Feeding problems	0	.4
Infection	1.8	.6
Birth defect	0	.5
Other	1.8	1.5
Multiple problems	0	.1
N	109	1,403