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Infertility Services Project Final Report

(FPR-000037-01-0)

I. Introduction

The purpose of this study is to describe the extent to which medical services are available to those in need of infertility services, especially to low-income and Medicaid-eligible women. The study has three components: (1) estimation of the need for infertility services (defined as the number of women of reproductive age who are infertile because of impairments in their own or in their partner's fecundity, whose infertility problem is medically treatable and who wish to have a baby); (2) estimation of the extent to which women with fecundity impairments have received infertility services and differences by poverty status and other demographic characteristics, and (3) a description of national, regional and metropolitan area availability of infertility services from private physicians and family planning agencies, and of national availability from specialized infertility treatment centers. This information will be used to identify the additional services, if any, necessary to reduce the unmet need for infertility services.

Several national data sets were analyzed to determine the need for and availability of infertility services. Estimates of the need and unmet need for infertility services among poor and nonpoor women of reproductive age were prepared from Cycle III of the National Survey of Family Growth (NSFG) conducted in late 1982 by the National Center for Health Statistics. Information about service providers comes from three Alan Guttmacher Institute (AGI) surveys: 1983 AGI Survey of Private Physicians, 1984 AGI Survey of Family Planning Agencies about Infertility Services, and the 1984 AGI Survey of Infertility Treatment Centers.

The first section of the report describes the methodology of data collection and analysis for each data set used. Next are the study results and tables, which describe the fecundity status of women 15-44 years of age and the need for and use of infertility services by all women. The availability of infertility services from three types of medical providers is examined. The providers studied include private physicians, organized family planning agencies, and specialized infertility treatment centers. The report concludes with a summary discussion of the availability and accessibility of infertility services and the implications of the findings.

The tables are numbered separately for each section of the report. The prefix "M" in the table number refers to the methodology section, "W" to data on women from the National Survey of Family Growth, "P" to the survey of physicians, "A" to the survey of family planning agencies, "C" to infertility centers, and "N" to a comparison of the need for services with the availability of providers.

II. Methodology

The Alan Guttmacher Institute (AGI) conducted three surveys of public and private health care providers to ascertain their infertility service policies and practices. This information was used to complement the findings from a special analysis of selected questions about fecundity, infertility, and use of infertility services abstracted from the 1982 National Survey of Family Growth. Below is a discussion of each data set, the analysis conducted and cautions for interpreting the findings for each data set.

A. Private Physician Survey

The information on the provision of infertility services by private physicians comes from data collected in the 1983 AGI Survey of Private Physicians. During the summer of 1983, the AGI conducted a national survey of private physicians to collect information on the provision of reproductive health care services, including infertility services, through the private medical sector. A random, stratified probability sample of 571 general/family practitioners, 686 general surgeons, 1,290 obstetrician/gynecologists and 662 urologists was selected from the American Medical Association (AMA) master file. 1/ The AMA's master file includes all U.S. physicians, regardless of their AMA member status, and is updated continuously. The sample selected included only physicians not employed by the federal government and with office-based practices in any of the 50 states or the District of Columbia in December 1982.

The questionnaire was designed to ascertain whether physicians provided specific services, their referral and fee policies (including acceptance of

Medicaid reimbursements), the number of patients served and general characteristics of the physicians' practices. The questions were modified for each group of physicians to cover only those services pertinent to their speciality (see questionnaire in Appendix A).

Questionnaires were initially mailed to the general/family practitioners, general surgeons and obstetrician/gynecologists during the summer of 1983. Numerous efforts were made to contact nonrespondents. First, questionnaires were sent two more times during a four-week period, after which random samples of remaining nonrespondents were interviewed by telephone. A fourth questionnaire was mailed to all nonresponding general/family practitioners and obstetrician/gynecologists and to 40 percent of nonresponding general surgeons. Finally, during the fall, all remaining nonrespondents were contacted by interviewers using an abbreviated telephone protocol; physicians were asked only if they were still in private practice in their respective specialities, if they provided the services under review, and if they were, whether they accepted Medicaid reimbursement for those services. Urologists were surveyed initially in the fall of 1983. All nonrespondents were followed up with two additional mailings; telephone calls were made to all those who did not respond to either follow-up mailing.

Of the 3,209 physicians initially surveyed, 515 were subsequently excluded from the study because it was found that they had retired or died or were listed under incorrect addresses or specialties (see Table M-1). Eighty-three percent (2,247) of the remaining 2,694 eligible physicians responded to the survey. The response rate was highest among urologists (89 percent) and lowest among general/family practitioners (79 percent); 83 percent of general surgeons and obstetrician/gynecologists responded as well. The proportion of physicians who responded differed little across the four regions.

No pattern of difference was found between respondents and nonrespondents in age, region or metropolitan status of practice, board certification or type of practice (solo, group or partnership). Similarly, few differences were found between physicians who answered the full questionnaire by mail or phone and those who answered the abbreviated telephone survey in the above characteristics, in whether they provided specific services or in whether they accepted Medicaid.

Responses were weighted to approximate the national distribution of physicians in the four specialities by region of the country and metropolitan areas. The AGI used the distribution of the sampled physicians to estimate the regional and metropolitan distributions, because the AMA provided estimates of the number of private physicians in office-based practices nationwide only. Table M-1 shows the estimated universe, by specialization and region, that the sample represents.

The analysis consists of two steps. In the first, estimates are made of the number and proportion of physicians who provide no infertility services, preliminary infertility tests and procedures, and specialized services, by specialty within the four regions and metropolitan and nonmetropolitan areas. The second step is to describe the policies of physicians who provide infertility services: their fee policies for low-income patients, whether they accept Medicaid reimbursements, their referral policies, and the number of infertility patients served annually.

Confidence intervals for the proportion of physicians providing a specific service or having a certain policy have been calculated as illustrated in text Table A below for each specialty. The confidence intervals are largest

when the proportion is around 0.5, so this proportion is used in the illustration. Tha formula for standard deviation takes into account the proportion of the universe of physicians that the respondents constitutes; these proportions differ widely for each physician specialty surveyed. The chances are 95 out of 100 that a sample estimate of 50 percent would fall within 10 percentage points of the actual percentage for general/family practitioners and general surgeons, and six and eight percentage points, respectively, for obstetrician/gynecologists and urologists.

Table A: Estimated Standard Deviations and Confidence Intervals for Each Physician Specialization

Specialization	Universe (N)	Respondents (n)	Standard deviation* (p=.5)	95% Confidence intervals** (p=.5)
• General/family practioners	49,879	355	.026	.45-.55
• General surgeons	23,100	448	.023	.45-.55
• Obstetrician/ gynecologists	21,422	931	.016	.47-.53
• Urologists	6,675	513	.021	.46-.54

* Standard deviation = $\frac{(1-p)}{n} \times 1 - \frac{n}{N}$

** Confidence intervals = $\pm$ 2 standard deviations.

B. **Family Planning Agency Survey**

The information describing family planning agencies' provision of infertility services is from data collected in a survey designed and fielded

for this study. During the fall of 1984, a questionnaire on infertility services provided by family planning agencies was designed, using questions similar to those asked of private physicians and adding more detailed questions about sources of funding, restrictions on the provision of services, and preliminary infertility care. The questionnaire was pretested with 19 agencies, and five provider specialists were consulted about the scope of the survey. The pretest results and other comments were reviewed and the questionnaire was finalized and printed in January 1985. (See Appendix B for a copy of the survey).

From the original universe of 2,454 family planning agencies in the United States, a minimum of 400 responses was needed for adequate description of the provision of infertility services by agency type and by region (see text Table B below, columns one and two).

Table B: **Family Planning Agency Survey Sample Estimates**

Agency Type	Universe	Proposed Minimum Responses	Final Sample	Estimated Mail Response	Actual Mail Responses
• Total agencies	2,454	400	768	426	508
• Health departments agencies	1,419	100	157	90	130
• Hospital family planning agencies	272	100	272	98	108
• Planned Parenthood affiliates	181	100	145	129	135
• "Other" type agencies	582	100	194	109	135

A recent AGI survey illustrated that the response rate to survey requests differs by agency type. 2/ Using these estimated response rates to identify the sample needed to obtain the goal of 100 responses from three mail requests, a sample of 768 agencies was estimated to be necessary, an increase from the 600 agencies estimated in the proposal (see column three). This sample was estimated to yield a minimim of 426 survey responses from three mailings (as shown in column four). The sample was planned to provide at least 100 respondents from each region.

Sampled agencies were sent questionnaires in January 1985. Three weeks later, all nonrespondents were sent a second request and, within three weeks, remaining nonrespondents received a third survey request. By April, the minimum number of responding agencies for each agency type and region had been received. The telephone follow-up planned for nonresponding agencies proved unnecessary; allotted staff time was used for obtaining information from agencies which had returned incomplete surveys. At the close of data collection in May of 1985, 508 agencies had responded (see Table M-2), 25 percent more than the minimum number needed for the analysis (see column five, text Table B).

As a result of the three mail requests to 768 agencies, nine agencies were found to be ineligible; these agencies had closed, merged, were no longer providing medical family planning services or had no forwarding address (see Table M-2). The ineligible agencies were deleted from the sample and from the universe. Of the remainder, 508 agencies responded and 251 agencies refused to participate or never responded to the mail requests.

Forty-five percent of the responses came from the first mail request (see

Table M-3); 37 percent came after the second request, while the third request yielded only half as many responses. Of the four types of agencies surveyed, Planned Parenthood affiliates were most likely to respond to the first request. Hospital and health department family planning agencies were more likely to respond to the second request than to the first, which may reflect the additional time such agencies might need to complete survey requests.

Overall, 67 percent of the eligible agencies responded, but the response rate differed widely by type of agency and less so by region, as shown in Table M-4. Planned Parenthood affiliates had the highest response rate, 94 percent, while hospital agencies were the lowest at 48 percent. The agencies in the four regions differed by no more than 11 percentage points in their response rates (61 to 72 percent). The percentage of agencies responding among the four regions overall and for each agency type did not differ significantly, except for the 'other' type of agencies, where those in the Northeast and Northcentral were more likely to respond than were those in the South and West (88 and 74 percent, vs. 62 and 66 percent, respectively). No statistically significant differences existed in the response rates of metropolitan and nonmetropolitan agencies. Finally, nonresponding agencies averaged smaller annual patient caseloads than did responding agencies. It was concluded that little response bias existed that might affect the planned analyses other than differences related to agency size.

Table M-5 shows the number and percentage distribution of responding agencies by agency type and region. In the analysis, agencies were weighted by agency type and region to represent the 2,445 eligible family planning agencies operating nationwide in 1983. Table M-6 shows the number and

percentage distribution of all agencies in the U.S. across the four regions. The weights are listed in text Table C, below.

Table C: Numbers Used to Weight Responding Family Planning Agencies to Represent the Universe of Agencies, within Four Regions

	Agency Type			
Region	Hospitals	Health departments	Planned Parenthood	Other types
Northeast	1.83	13.00	1.34	3.51
Northcentral	2.15	9.94	1.29	4.11
South	2.40	14.75	1.42	4.96
West	2.45	9.56	1.29	4.69

(Universe/ respondents = weight within region by agency type)

The analyses consist of two steps: the first step is to describe nationally, by region and by agency type the number and proportion of agencies, that provide no infertility services, counseling and referral services only, preliminary infertility tests and procedures, and specialized infertility services. These classifications reflect the Title X definition of levels of infertility services. 3/ The second step is an analysis of the agencies that provide infertility tests and procedures, to describe nationally: the kinds of services provided, restrictions on the provision of these services, the average fees charged for selected procedures, sources of income for infertility services, fee policies for serving low-income and Medicaid patients, acceptance insurance reimbursement, and the number of male and female infertility patients served annually.

Confidence intervals for proportion of agencies providing a specific service or having a certain policy have been calculated, as illustrated in text Table D below:

Table D: Estimated Standard Deviations and Confidence Intervals for Each Agency Type

Agency type	Universe (N)	Number of Responses (n)	Standard Deviation* (for p=.5)	95% Confidence Interval** (for p=.5)
Health department	1,419	108	.046	.41 - .59
Hospital	270	130	.032	.44 - .56
Planned Parenthood affiliate	180	135	.022	.46 - .54
Other type	576	135	.038	.42 - .58

* Standard deviation = $\sqrt{\frac{p(1-p)}{n}} \times \sqrt{1-\frac{n}{N}}$

**Confidence interval = $\pm$ two standard deviations

The confidence intervals are largest when the proportion is around 0.5, so this proportion is used in the illustration. The formula used takes into account the proportion of the universe of agencies that the respondents constitute.

C. Infertility Treatment Center Survey

Twenty-one infertility treatment centers were selected to be surveyed, having been identified in the AGI Private Physician Survey as sites where physicians referred patients. The infertility services questionnaire sent to

family planning agencies was revised to be used for infertility treatment centers. More detailed questions about specialized services were added to the center survey, and questions specific to the family planning agencies were deleted (see questionnaire enclosed as Appendix C). Three infertility provider specialists were consulted about the revised questions, and the survey was finalized and printed in-house.

In Winter, 1985, all 21 facilities were mailed a questionnaire, a stamped, return-mail envelope and a brochure describing the Institute. Three weeks later, nonrespondents received a second request; a third request was sent three weeks later. The eight remaining nonresponding facilities were interviewed by telephone. Two refused to participate, and none were found to be closed or otherwise inappropriate for this survey. The 19 respondents represent 91 percent of the selected sample.

For the analysis, the survey findings were tallied to provide descriptive information on the range of services provided, the number of patients provided with various services, the cost to patients for selected procedures, the centers' financial policies and sources of income, their restrictions and their referral policies. No estimates are available to weight the sample to the universe of treatment centers in the United States.

D. Estimation of the Need and Unmet Need for Infertility Services

Estimates of the fecundity status of American women, the need for infertility services and the number of women who have received services were based on the National Survey of Family Growth, Cycle III (NSFG), conducted in 1982 by the National Center for Health Statistics, DHHS. In this survey,

women 15-44 years of age were interviewed, regardless of their marital status. Between August of 1982 and February of 1983, interviews were completed with a multistage area probability sample of 7,969 women 15-44 years of age in the noninstitutional population of the conterminous United States, obtaining a 79 percent response rate. Written parental consent was required to interview minors, which means that two people - the respondent herself and her parent or guardian - could refuse the interview. The response rate for ever-married women in Cycle III was 81 percent, while the rate for never-married women was 75 percent. Black women were oversampled, as in previous cycles of the NSFG, and teenage women were also oversampled. In all, about 4,600 white and 3,200 black women were interviewed. Sample sizes by marital status were about 3,300 never married, 3,600 currently married, and 1,100 previously married. This survey asked women about their birth and pregnancy history, family planning practices, sources of family planning advice and services and utilization of various methods of family planning.

The NSFG staff has carefully checked the data and computed many of the variables which are based on several different questions. Where possible, the variables computed by the NSFG staff were used in the present analysis. The amount of missing information on most individuals items is low, and the NSFG staff has imputed values where information is missing. The imputed values are based on other correlated items with available data. The imputed values were used in this study to facilitate projection to national totals.

According to the NSFG manual, the major limitation of the data is the underreporting of abortions. 4/ Since about 18 percent of all pregnancies were unreported due to the underreporting of abortions, the number of women

known to be fecund may be underestimated by as much as 18 percent. Other fecundity statuses were therefore overestimated, especially the "fecundity unknown" categories. The number of women classified as "long-interval" subfecund may also have been overestimated. The problem would be minimal among white women, however, since little or no underreporting of abortions was observed among white married women. Some underreporting of abortions occurred among black married women, but since only a small proportion of women are "long-interval," the error would have only a small effect on the analysis.

Standard errors were calculated for all estimates and proportions used in the analysis. Equations published by the NSFG were used to calculate the standard errors (see Table M-7). Estimates with relative standard errors (the standard error divided by the estimated value) of 30 percent or more are marked in the tables with an asterisk (*). T-tests used to test the significance of differences in proportions, calculated as suggested in the NSFG manual. (See Table M-7 for the formulas used.)

Table M-1: Number of Physicians in the United States Sampled for the 1983 AGI Doctor Survey: Responding, Nonresponding and Ineligible Physicians and Percentage Responding to the Survey, by Specialization and Region

		Specialization				Region			
Response Status	Total	Obstetricians/ Gynecologists	General/Family Practitioners	General Surgeons	Urologists	Northeast	Northcentral	South	West
Universe	101,100	21,400	49,900	23,100	6,700	20,900	24,900	33,200	22,100
Total Sample	3,209	1,290	571	686	662	708	747	1,095	659
Respondent Physicians	2,247	931	355	448	513	465	543	784	455
Nonrespondent Physicians	447	195	96	94	62	100	95	164	88
Ineligible Physicians	515	164	120	144	87	143	109	147	116
Percent respondents are of eligible physicians	83%	83%	79%	83%	89%	82%	85%	83%	84%

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Table M-2: Number of Family Planning Agencies in the United States, Number Sampled for the Survey, and Response, by Agency Type and Region

Response Status	Agency Type					Region			
	Total	Hospital	Health Depart.	Planned Parenthood	Other	North-east	North-central	South	West
Universe	2,454	272	1,419	181	582	323	413	1,285	433
Total sample	768	272	157	145	194	202	163	245	158
Respondent agencies	508	130	108	135	135	138	116	149	105
Nonrespondent agencies	251	140	49	9	53	61	46	94	50
Ineligible agencies*	9	2	0	1	6	3	1	2	3
Percent respondents are of eligible agencies	67%	48%	69%	94%	72%	69%	72%	61%	68%

* Ineligible agencies include agencies that had closed, merged, or had no forwarding address, or are no longer providing medical family planning services.

Table M-3: Percentage Distribution of Responding Family Planning Agencies by Mailing, According to Agency Type and Region

Mail Request	Total	Agency Type*				Region			
		Hospital	Health Department	Planned Parenthood	Other	Northeast	Northcentral	South	West
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%
First Mailing	45	36	34	61	47	49	53	37	46
Second Mailing	37	37	44	32	35	33	31	44	37
Third Mailing	18	25	22	7	18	18	16	20	17
n=	508	130	108	135	135	138	116	149	105

Note: The distribution of agencies is of eligible responding agencies; all agencies found, when surveyed, to be merged, closed, or no longer providing medical services were counted as ineligible and deleted from the sample.

* Statistically significant difference in percentage of agencies by mailing ($p < .05$).

Table M-4: Percentage of Agencies Located in Metropolitan Areas and in Each of Four Regions That Responded to the Survey and Comparison of Average Annual Patient Caseload for Responding and Nonresponding Agencies, by Agency Type

Characteristics	Agency Type				
	Total	Hospital	Health Department	Planned Parenthood	Other
Total*	67%	48%	69%	94%	72%
Metropolitan Status					
Metropolitan	66	47	70	94	71
Nonmetropolitan	69	57	68	93	73
Region					
Northeast	69	55	100	92	88**
Northcentral	72	46	89	97	74
South	61	42	61	89	62
West	68	41	95	97	66
Average Patient Caseload					
Respondents	3,571*	2,031	2,108	7,864	1,932
Nonrespondents	1,721	1,974	826	4,430	1,421

* Statistically significant difference between the agency types ($p < .05$)
** Statistically significant difference between the subgroups within this agency type ($p < .05$)

Table M-5: Number and Percentage Distribution of Family Planning Agencies Responding to the 1984 AGI Family Planning Agency Infertility Services Survey, by Type of Agency

Region	Number					Percentage				
	Total	Hospital	Health Department	Planned Parenthood	Other	Total	Hospital	Health Department	Planned Parenthood	Other
	N	N	N	N	N	%	%	%	%	%
Total	508	130	108	135	135	100	100	100	100	100
Northeast	138	64	2	35	37	27	49	2	26	27
Northcentral	116	26	16	38	36	23	20	15	28	27
South	149	20	72	31	26	29	15	67	23	19
West	105	20	18	31	36	21	15	17	23	27

Table II-6: Number and Percentage Distribution of Agencies in the Universe for the 1984 AGI Family Planning Agency Infertility Services, by Type of Agency

Region	Number					Percentage				
	Total	Hospital	Health Department	Planned Parenthood	Other	Total	Hospital	Health Department	Planned Parenthood	Other
	N	N	N	N	N	%	%	%	%	%
Total	2,445	270	1,419	180	576	100	100	100	100	100
Northeast	320	117	26	47	130	13	43	2	26	23
Northcentral	412	56	159	49	148	17	21	11	27	26
South	1,283	48	1,062	44	129	53	18	75	24	22
West	430	49	172	40	169	18	18	12	22	29

Note: The universe has been adjusted, eliminating those agencies found, when surveyed, to be merged, closed or no longer providing medical services.

Table M-7: Formulas Used to Estimate Standard Errors, Relative Standard Errors, and Statistically Significant Differences Between Two Estimates, Prepared Using Weighted NSFG Data

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1. The standard error of an estimated percentage is calculated as follows:

$$SE(P') = \left[\frac{B^* P'(1-P')}{X'}\right]^{1/2}$$

P' = the percent

X' = the number of women in the denominator of the percent

B = 21,306.4134 for women of all marital statuses, all races and white

39,809.1677 for ever-married women

17,608.8833 for never-married women

6,346.0487 for black women

13,862.1044 women aged 15-19

The chances are about 95 in 100 that a sample estimate would fall within two standard errors of the actual proportion.

2. The relative standard errors of a statistic is the ratio of the standard error to the statistic and is expressed as a percent of the estimate, as follow:

$$RSE\ (P') = SE(P') \div (P')$$

Statistics with relative standard error of 30 percent or larger are viewed to be unreliable and are so indicated in this report with an asterisk (*).

3. The t - statistic used in this analysis approximates the students' t distribution under the null hypothesis of no difference between the parameters estimated by P1 and P2 against a two-sided alternative. The formula is as follow:

$$t = \frac{P1 - P2}{\sqrt{(SE\ (P1))^2 + (SE\ (P2))^2}}$$

With large sample sizes as in the NSFG, a + value >1.96 is statistically significant at the .05 level, two-tailed.

III. Women by Their Fecundity Status and Need for Infertility Services

This section describes the fecundity status of U.S. women according to demographic characteristics of the women. The proportion with possibly treatable fertility problems is estimated according to the type of problem, as are the proportions who need services and who have received them. Finally, the proportions of those surgically sterilized who would like more children and who would like to have the sterilization reversed are shown.

A. Classification by Fecundity Status

The fecundity status of U.S. women and their need for infertility services were estimated from the National Survey of Family Growth, Cycle III, 1982. (See Section II. D. above for methodological details.) All women aged 15-44 years of age were classified into one of nine categories of fecundity status: (1) known fecund; (2) fecundity unknown, contraceptive user; (3) fecundity unknown, nonuser of contraceptives; (4) fecundity unknown, not sexually active; (5) surgically sterile for contraceptive reasons; (6) surgically sterile for noncontraceptive reasons; (7) nonsurgically sterile; (8) perceived subfecund (difficult to become pregnant); (9) difficult or dangerous to carry to term; and (10) long interval. The classification of women's fecundity status was done hierarchically in the order given below, since some women have characteristics applicable to more than one category. The complete classification, with numbers in each category, is shown in Chart 1.1.

1. Subfecund or Infecund

a. Surgically Sterile

This category includes 13,684,000 women who have had sterilization operations or whose current husband/partner (hereafter referred to as husband) has had one. This was ascertained from the answers to three questions:

1. Is it possible or impossible for you (and your husband) to conceive a(another) baby?

2. Have you (or your husband) had an operation, or more than one operation, that makes it impossible for you to conceive a(another) baby (together)?

3. What kind of operation, or operations, did you (or your husband) have that makes it impossible to have a(another) baby?

This surgically sterilized category is subdivided into whether or not the sterilization surgery was for contraceptive reasons. This division is based on the women's response to an additional question:

4. Was one reason for having (an operation) because you (had all the children you wanted/did not want to have any children)?

Of the surgically sterile, 9,443,000 (69 percent) were for contraceptive reasons.

The surgically sterile are further divided into those who had tubal ligations or vasectomies (10,004,000) and those who had hysterectomies or ovariectomies. The latter are irreversible, while tubals and vasectomies can sometimes be reversed by microsurgery.

b. Nonsurgically Sterile

This category covers (893,000) women who stated in the first question above that it was impossible for them (or their husbands) to have a baby, but the reason was menopause, an accident, or illness, and not sterilization surgery.

c. Perceived Subfecund

Women were classified as perceived subfecund (1,299,000) if they answered affirmatively to the question:

> Is there any problem or difficulty for you (and your husband) to conceive or deliver a(another) baby (after this pregnancy)?

and gave one of the following as the reason it would be difficult:
(a) respondent has physical difficulty getting pregnant,
(b) difficult for the husband to father child, or
(c) other reason difficult.

d. Difficult/Dangerous to Carry to Term

This category includes (2,140,000) women who did not say they were sterile or subfecund but said it would be difficult to carry a pregnancy to term, dangerous to become pregnant or to carry a pregnancy to term, or had been advised by a doctor not to become pregnant. These women said:

.. It would be difficult for them to conceive or deliver a baby, and the reason it would be difficult is that (a) it would be difficult to carry pregnancy a full 9 months, (b) it is dangerous for the respondent to become pregnant again, or (c) it would be dangerous for the baby, or,

2. A medical doctor has advised respondent never to become pregnant (again), and the reasons are that it would be dangerous for the respondent, the baby, both, or some other reason.

These women are unable to have a baby but are not infertile, that is, report no problems related to conception. Therefore they do not need infertility care as usually defined. However, treatment other than infertility care might be appropriate for some of these women who wish to have more children.

e. Long Interval

This category includes (1,135,000) currently (formally or informally) married women who are not surgically sterile, do not report problems related to conceiving or carrying to term, and who during 12 or more months of continuous marriage before the interview, neither practiced contraception nor reported a pregnancy. Without further information, these couples were presumed to be infertile but may be able to conceive in the future. Various periods of time of exposure to the chance of pregnancy with no pregnancy occurring have been used in past analyses, ranging from 12 to 36 months. A longer period is a more appropriate indicator of true infecundity, but many couples seek services after as short a time as 12 months. Therefore, the shorter period was used in this analysis. Not included in this category are unmarried women who have not practiced contraception and have not become pregnant. These women are excluded because of uncertainty about their exposure to intercourse over the time period.

2. Fecund, Known

Most women (34,728,000) of reproductive age have none of the above characteristics and were classified as known fecund (10,562,000) or fecundity unknown (24,166,000). All women who were not already classified as subfecund or infecund and who had experienced a pregnancy within the three years prior

to the interview were classified as fecund. Because they did not report any problems in conceiving or carrying to term, and because they were recently pregnant, they are presumed to be capable of having another baby. This is a minimum estimate of the number of known fecund women because of underreporting of pregnancies ending in abortion, particularly among unmarried women. The underreporting of abortions could mean that the number of fecund women should be adjusted upward by as much as 18 percent. This adjustment was not made because of uncertainty about the exact correction factor to use for the "known fecund" category and the other categories affected.

3. Fecundity Unknown

a. Fecundity Unknown, Contraceptive User

This category includes (11,687,000) women who are not classified as having impaired fecundity, did not report having been pregnant during the three years prior to the interview and are currently using reversible contraception. Their use of contraceptives indicates that they consider themselves to be capable of conceiving, but in fact their fecundity status is not known.

b. Fecundity Unknown, Noncontraceptive User

This category includes (4,937,000) women who are not classified as having impaired fecundity, did not report having been pregnant during three years prior to the interview and are sexually active but not currently practicing contraception. Their period of nonuse of contraceptives was less than one year ("short interval"), or they were neither formally nor informally married and are therefore not eligible to be classified as "long interval."

c. Fecundity Unknown, Not Sexually Active

All women who have never had sexual intercourse and who do not report problems that affect conceiving or carrying to term and are not nonsurgically sterile are classified as fecundity unknown, not sexually active (7,542,000). In addition to those who have never had intercourse, this category includes women who had intercourse before their first menstrual period but not since, and those who are under age 25 and have had intercourse only once.

4. Comparison to Other Fecundity Status Classifications

Various definitions of fecundity status have been used over the years to describe the population and to make best use of what data were available. The classification of fecundity status presented here is more detailed and differs slightly from that used by the NCHS, which groups women as surgically sterile (contraceptive and noncontraceptive), impaired fecundity (nonsurgically sterile, subfecund, and long interval), and fecund. 5/ The NCHS includes in its subfecund category both women who have difficulty conceiving and those who have difficulty carrying to term. All women who said they had been told it would be dangerous to carry a pregnancy to term were included in this report as subfecund, while William Mosher, of the NCHS, considered them to have impaired fecundity only if they also said either that they would have an abortion to terminate a pregnancy or that they were planning to use sterilization to prevent pregnancy. The AGI classification separates these into two groups, subfecund and difficult/dangerous to carry to term. The AGI classifies as "fecundity unknown" many women considered fecund by the NSFG staff (contraceptive users, nonusers, not sexually active). Finally, a

12-month rather than a 36-month interval of unprotected intercourse within marriage was used to define "long-interval" subfecundity. The differences in definition stem in part from differences in focus: the primary concern of the present research is the need for infertility services, while that of Mosher is the demographic impact of impaired fecundity.

B. Definition of Need for Infertility Care

In this analysis, women are considered to be in need of infertility care if they have a possibly treatable infertility problem (3,509,000) and want more children (2,417,000). Those with a possibly treatable problem are defined as those who are non-surgically sterile (excluding those who have experienced menopause), perceived subfecund, and long interval. Excluded are women for whom carrying a pregnancy to term would be difficult or dangerous, because the appropriate care for these women, such as treatment for diabetes or heart disease, is different from what is usually considered to be infertility treatment. Also excluded are couples who are surgically sterile because they have had a tubal ligation or vasectomy who now desire sterilization reversal; the number and characteristics of such couples are shown separately in Table W-6.

This definition of "need" for services has certain limitations and does not directly indicate the number of couples seeking care during the year. It is based entirely on women's reports of their own and their husbands' or partners' status, and it is assumed that these reports accurately reflect their actual physical condition and desire for children. First, it includes "long-interval" women who may not yet be aware of their possible infertility

problem, and women who have no desire to become pregnant at this time. Most such women would not now seek care. Second, many women classified as "fecundity unknown" may have infertility problems that will become apparent in the future. The estimate applies to one point in time; it does not indicate the number of new cases that occur each year or the number who seek treatment in a year.

C. Results

1. Fecundity Characteristics

Table W-1 shows the distribution of all women 15-44 years of age in 1982, by their fecundity status and selected characteristics. Twenty percent were known to be fecund, 36 percent were subfecund or infecund, and fecundity could not be determined for the remaining 44 percent. Half of the subfecund and infecund had been sterilized for contraceptive reasons. Some 18 percent of all women aged 15-44 had involuntary fecundity impairments. Almost half of these (eight percent of all women) were surgically sterile, usually as a result of hysterectomy. Four percent of all women said it would be difficult or dangerous for them to carry a pregnancy to term. Of special relevance for assessing need for infertility services are the seven percent who are classified as "long interval" because they had been (formally or informally) married without using contraceptives or becoming pregnant for at least 12 months, who reported that they have difficulty becoming pregnant (perceived subfecund), and who are nonsurgically sterile.

a. Age, Race, Ethnicity

As seen in Table W-1, the prevalence of sub- and infecundity -- surgically

sterile, nonsurgically sterile, subfecund, difficult or dangerous to have a baby and long-interval categories -- increased with each 5-years of age, from 2.8 percent at 15-19 years of age to 73.6 at 40-44 years of age. This difference by age was sharpest in the surgically sterile category, which increased from near zero at 15-19 years of age to 61.2 percent at 40-44 years. The increase in the surgically sterile accounts for 86 percent of the increase in the percentage of all women who are not fecund. The proportion nonsurgically sterile also increases with age to three percent of women age 35 and over. The proportion who perceive themselves to be subfecund increases to a peak of four percent at ages 25-34 and then declines with age. One can hypothesize that past age 34, most women are no longer seeking to become pregnant, so subfecundity would be masked by contraceptive use and sterilization. The proportion of women classified as difficult/dangerous to carry to term is four to five percent among all age groups except teenagers, in part because fecundity status is unknown for most teens. The proportion categorized as long interval is similarly stable among women 20-45, although there is a shift of the length of the interval from 12-35 months to 36 months or more with age. It should be noted that the pool of women available to be classified as perceived subfecund, difficult/dangerous and long interval increases with age as women move out of the "fecundity unknown" category but decreases as more women become surgically sterile.

There are slight differences in the fecundity status of the racial and ethnic groups shown in Table W-1. Black women are more likely than other women to be nonusers of contraceptives with fecundity unknown and to be sexually active, and less likely to be using surgical sterilization as their

contraceptive method. (Other analyses have shown this difference to reflect less use of vasectomy by black men. 6/) Hispanic women are more likely than non-Hispanic women to be known to be fecund because of a recent pregnancy and less likely to be contraceptive users with unknown fecundity or to depend on sterilization.

b. Marital Status, Parity and Desire for Children

In part because they are older and have had more children, married women (or their partners) are more likely than unmarried ones to be surgically sterilized both for contraceptive and other reasons. However, women who are not currently married are almost as likely as married women to perceive themselves to be subfecund and to be nonsurgically sterile. (While fewer unmarried than married women are in these categories, the differences are not statistically significant.) Few unmarried women were classified as "long-interval" because they were excluded from this category by definition unless they were "informally married." (The "informally married" are classified as unmarried in Table W-1.) However, a substantial proportion of unmarried women - 17 percent - were classified as nonusers with fecundity unknown; some of these women are undoubtedly subfecund. It is not possible to estimate the exact number because of uncertainty about their degree of exposure to risk of pregnancy.

Women who have had one or more births are more likely than others to be classified as long-interval but less likely to perceive themselves as subfecund. They are also less likely to be nonsurgically sterile. Overall, there is little difference between the two groups in their rate of nonsurgical fecundity impairments. As might be expected, women with children are more

likely to be surgically sterile for both contraceptive and noncontraceptive reasons.

Nonsurgical fecundity impairment is about equally common among women who want (more) children and those who do not. Contraceptive sterilization is much more common among those who want no more children, although seven percent of those who would like (more) children are contraceptively sterilized. Women who want (more) children are more often nonusers of contraceptives; some of these are seeking pregnancy. However, even among those who do not want more children, six percent are not practicing contraception. Some of these women may not currently be in a sexual relationship, but studies consistently show that some U.S. women who are exposed to the risk of unintended pregnancy do not use contraceptives. 7/.

c. Geographic Location

The percentage of women who are subfecund or infecund is higher in nonmetropolitan areas than in metropolitan areas (40 and 35 percent, respectively). The difference is attributable to the fact that nonmetropolitan-area women are more likely to be surgically sterile for both contraceptive and noncontraceptive reasons, although individually these differences are not statistically significant.

The percentage of women 15-44 years of age who are sub- or infecund is lower in the Northeast than in the other three regions (29 vs. 36 to 40 percent, respectively). Much of this difference occurs because the percentage surgically sterile is lower in the Northeast than elsewhere (19 vs. 25 to 28 percent). Women in the Northeast are more likely than those in the other three regions to be classified as fecundity unknown: contraceptive users or

not sexually active. The greater proportion of women in the Northeast with fecundity status unknown accounts for most of the difference in proportion surgically sterilized between the Northeast and the West but not the lower level in the Northeast than in the Northcentral region and the South.

d. Poverty and Medicaid Status

Women were classified according to the ratio of their family incomes to the federally-defined poverty level. While there are statistically significant differences in the fecundity status of women in the different poverty status groups, caution is appropriate in interpreting small differences because income data were imputed for many respondents.

Women whose family income is under 150 percent of the poverty level are less likely than wealthier women to be classified as subfecund or infecund. The largest difference is in the proportion contraceptively sterile, 14 percent of the low-income group vs. 19 percent of those with higher income. The low-income women are also less likely to be nonsurgically sterile, perceived subfecund, or long interval. The low-income women are more likely to be classified as "known fecund" (more of them have been pregnant recently), less likely to be contraceptive users, and more likely to be nonusers.

Since many of these differences may be due to age differences, the low-income women being younger than the wealthier women, the poverty status differences are shown separately for women under age 30 and those 30 and over in Table W-1. Within the age groups, the poverty status groups are similar in rate of surgical sterilization, both contraceptive and noncontraceptive.

Among the younger women, those who are poor are much more likely to be known fecund and less likely to say they are subfecund. They are also less likely to be contraceptive users or to be not sexually active. Among women age 30 and over, the only statistically significant differences between the poverty status groups are that fewer of the low-income group are contraceptive users and more are nonusers.

Medicaid* recipients (who are poor and usually either unmarried mothers or a child of an unmarried poor women) may be slightly less likely than non-recipients to be contraceptively sterilized, perceived subfecund and long-interval, but none of the differences are statistically significant. One would expect lower rates of infecundity and subfecundity among Medicaid recipients because most of them have had children. Medicaid recipients are more likely to be known fecund and less likely to be contraceptive users or not sexually active than non-recipients. Compared to all women below 150 percent of the poverty level, more Medicaid recipients are known fecund and fewer are contraceptive users or not sexually active.

In summary, low-income women and Medicaid recipients do not appear to differ greatly from other women in fecundity impairment except in ways that

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* Medicaid, a joint federal and state program to reimburse medical services for certain poor women and men, is a major source of public funding for infertility services. States are required to make Medicaid Coverage available to all recipients of Aid to Families with Dependent Children (AFDC or welfare) and to most Supplemental Security Income recipients, groups defined as categorically needy, but the states determine the income levels which individuals are eligible for these programs. In addition, in some states persons with incomes below a specified level or whose resources have been exhausted by medical expenses may be eligible. Generally, poor women must be unmarried and mother of dependent children to be eligible for AFDC and, therefore, for Medicaid. Poor married women are eligible only if they live in states which have made Medicaid available to poor families with unemployed fathers.

can be explained by differences in age and parity. However, even controlling for age, low-income women are less likely to use contraception and more likely to have had sexual intercourse.

2. Number of Women with Fecundity Impairments

Of the 54.1 million women of reproductive age in the United States in 1982, 19.4 million or 36 percent, were known to be subfecund or infecund (see Table W-2). The large majority of those with fecundity impairments, 71 percent, are surgically sterile: of these, 73 percent have had tubal ligations or vasectomies.

Surgical sterilization could occur as a result of treatment for medical conditions or as an elective procedure to prevent future childbearing. In all, 3.7 million women of childbearing age have had hystarectomies or ovariectomies. Although these procedures are seldom chosen for the sole purpose of terminating childbearing, 23 percent were reported by the women to have been at least partly for contraceptive purposes. Since there is no way to restore the fecundity of these women, they are not considered to be in need of infertility services even if they would like to have the sterilization reversed.

Of the 10.0 million couples who have had tubals or vasectomies, 1.4 million (14 percent) reported the reason to be that childbearing would be dangerous and that not wanting more children was not a reason. Even if these couples regret their decision, they are not considered to be in need of sterilization reversal because of the evident danger that would be posed by childbearing. There is neverthless a possibility that reversal would be safe for some of these women if their medical condition has changed or if the danger

the danger had been exaggerated in order to justify sterilization that was desired for contraceptive reasons.

There are 0.9 million nonsurgically sterile couples, about four percent of whom have experienced menopause and are therefore not considered to be candidates for infertility treatment. Some of the remaining 96 percent may have similarly untreatable conditions. Fertility impairments that are possibly treatable were reported by 1.5 million women who reported that they would have difficulty becoming pregnant, and an additional 1.1 million are "long-interval," having been married and gone without using contraception for at least 12 months without becoming pregnant. About half of the long-interval group have been unprotected for 36 months or more.

3. Infertility Services Need and Utilization

As shown in Table W-3, an estimated total of 3.5 million women have possibly treatable fertility impairments (excluding those who desire contraceptive sterilization reversals, which will be discussed separately). Almost half of these (43 percent) reported that they would have difficulty becoming pregnant, a third (32 percent) appear to have a problem based on their failure to become pregnant after 12 or more months of unprotected intercourse, and the remainder reported that they are nonsurgically sterile.

Women are defined in this analysis as being in need of infertility services if they have a condition that might be treatable and they want a child (or more children) either now or at some time in the future. All the women would not, of course, be expected to be able to have a child, but it is reasonable for them to seek consultation about their infertility.

Sixty-nine percent of the women or couples with possibly treatable fertility impairments, or 2.4 million women, say they would like to have (more) children, and are therefore defined as being in need of infertility services. The percentage wanting (more) children is similar for the perceived subfecund and long-interval (71 percent) but slightly lower for the nonsurgically sterile (62 percent), who are older on average than the other two groups.

For half the couples needing services, it is the woman who is thought to have the fertility impairment. In only ten percent was the male partner the one described as having the problem. In 39 percent of the cases, mainly long-interval, there is no indication which partner needs treatment. Thus, it appears that a large majority of the need is for services for females.

The male partner has been identified as having the infertility problem in 31 percent of the non-surgically sterile couples but in only seven percent of the perceived subfecund. This difference may reflect more certainty in the diagnosis obtained by those who report themselves to be sterile. After more treatment, many of the "perceived subfecund" will consider themselves to be sterile, and some will probably learn that it is the male who is infertile.

About half (49 percent) of those in need of infertility services have already received some professional attention. Sixteen percent have received advice only, while 33 percent have received some treatment.

Fifty-one percent of those needing services -- some 1.2 million women -- have received no professional advice or treatment for their infertility problem. This represents the unmet need for infertility services. In addition, an unknown proportion of those who have received services would benefit from further professional attention.

4. Characteristics of Women Needing and Obtaining Services

As may be seen in Table W-4, the majority (54 percent) of women needing infertility services are in their 20's, and most of the rest (36 percent) are aged 30-39. Relatively few are teenagers or are age 40 and over (five percent each). About 11 percent are black and 12 percent Hispanic. Most are currently married (75 percent), most have had no children (59 percent), and most live in metropolitan areas (82 percent). Regional differences reflect the population distribution in the country, with most women needing services in the South (32 percent) and in the Northcentral states (29 percent).

Although 15 percent of those needing services have family incomes that put them at under 150 percent of the poverty level, only four percent are Medicaid recipients. In fact, the number of Medicaid recipients needing services equals only about one-fourth of the number of poor women needing services. It is possible that the NSFG underestimates the number of women with Medicaid coverage by about one-fourth.* Even taking this into account, Medicaid coverage is available for at most one-third of poor women in need of infertility services. This has important implications for the accessibility of infertility services for low-income women.

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* The number of Medicaid recipients estimated from the 1984 Current Population Survey is about five million 8/, compared with about four million from the NSFG. The Current Population Survey estimate may include women who are Medicaid-eligible but do not have Medicaid cards.

The 2.4 million women in need of infertility services represent 4.5 percent of all U.S. women of reproductive age. The probability that a woman is identified as in need of infertility services varies somewhat by demographic characteristics, as shown in Table W-5. Need is most likely among those aged 25-29 and in nearby age groups. Need is also greatest among those are currently married and those who have had no births. Race and Hispanic ethnicity have no statistically significant relation to the probability of need. Similarly, geographic location -- metropolitan status, region -- has no significant relation to need.

Need for services appears to be less prevalent among poor women than among women of higher income. This is true for women under age 30 as well as those aged 30 and over. Medicaid status has no statistically significant relationship to need, although those on Medicaid appear to be less likely than others to need services. Small differences cannot be detected because of small sample sizes of the subgroups.

Among women who need infertility services, the proportion who have received professional advice or treatment differs according to demographic characteristic (see Table W-5). Age is the best predictor of having received services: only 10 percent of teenagers as compared to 70 percent of women 40 and over have consulted a professional about their infertility problem. As might be expected, married women are more likely than unmarried ones to have received services. There are no significant differences by matropolitan status or region.

Among those needing services, black women are less likely than others to have obtained services. Hispanic women also appear less likely to have obtained services, but the difference is not statistically significant due to

the sample size limitations. Low-income women are less likely than higher income women to have received services. When age is controlled by looking separately at women under 30 and those 30 and over, the difference remains but is no longer statistically significant because of small sample sizes in the subgroups. Those on Medicaid appear to be less likely than those not on Medicaid to receive services, although again the sample sizes are too small to show statistical significance.

The above results provide strong evidence that infertility services are less accessible to socially deprived groups - those with low income and blacks. Medicaid does not appear to have been successful in eliminating the differential access to services.

As may be seen in Table W-5, there are 1,242,000 women or couples who have "unmet need," that is, need infertility services but have not received any medical attention for their infertility problem. As explained above, this figure may differ from the number who are seeking services or would utilize them if readily available. The definition of unmet need used in this analysis excludes women or couples who have received infertility services but would benefit from additional medical care, and it includes some who are not yet aware of their fertility problem, some who would not want to become pregnant at this time, and possibly some who know that their condition is untreatable or who choose not to undergo the necessary treatment.

The unmet need is concentrated among younger women: almost 72 percent are under age 30. Many are black and Hispanic, with 14-15 in each group, and an equal proportion live in nonmetropolitan areas. About 22 percent of those who have not received services are poor, with incomes under 150% of the poverty level, but only six percent are Medicaid recipients.

A large majority of those who have received infertility services obtained this care from private physicians. Following is the percentage distribution of the most recent source of infertility services, for those who received such care between the beginning of 1979 and the NSFG interview in 1982:

Source of Care	Percent
Private physician	67.0
Private medical group	12.2
Hospital clinic	12.1
Community health center/clinic	3.7
Military clinic	2.3
Family planning clinic	2.1
Public health clinic	0.6
	100.0

Besides private physicians and group practices, which were the most recent source of care for 79 percent of respondents, hospital clinics provided the most services, serving 12 percent. Since most specialized infertility centers would be counted as hospital clinics, it is clear that infertility centers serve only a small proportion of all infertility patients. Family planning clinics were the most recent source of care for 2.1 percent of respondents. Since these figures indicate the most recent source of care -- in many cases, the final source -- they may understate the importance of family planning and other nonhospital clinics in providing initial evaluation, counseling and referral for couples with concerns about their fertility.

There is no justification for assuming that women who obtain infertility services from private physicians receive higher quality care than those who use hospital clinics or other sources. Therefore it is impossible from these data to ascertain whether the care received by low-income and Medicaid-eligible women is inferior to that received by other women.

5. Desire for Contraceptive Sterilization Reversal

Of the 8.6 million women or their partners who have been surgically sterilized for contraceptive reasons, 26 percent say they would now like to have a child (or more children)* (see Table W-6). This percentage may be inflated somewhat by women who would like ideally to have more children but who as a practical matter would not choose to do so under present circumstances, even if they were fecund. Nevertheless, the number who say they would like to have a child is approximately 2.2 million.

These couples have a chance of restoring their fecundity only if they undergo microsurgery to reverse the sterilization, and respondents were asked if they or their partners wished to have the surgery. Not all of those who would like more children are willing to undergo the surgery, and some of the respondents indicated that their wishes are different from those of their husband. Thirty-nine percent of those who would like more children (or 10 percent of all sterilized couples, some 880,000) indicated that both they and their husband want the sterilization reversed (or, for unmarried women, she wants a reversal). For an additional nine percent of the couples, the sterilized partner would like a reversal but the other partner would not.

Table W-6 shows the percentage and number of women using contraceptive sterilization (either hers or her partner's) who would like more children and would like reversal of the sterilization. In this table, desire for reversal was assumed for married women only if the sterilized partner "definitely"

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* The question was worded as follows: "If it were possible for you to have a(nother) baby, would you, yourself, like to have one?" (Yes, No). No question was asked about the husband's or partner's desire for more children.

wanted a reversal and the non-sterilized partner wanted reversal "definitely" or "maybe." For unmarried women, only those "definitely" wanting reversal were counted as wanting reversal.*

It should be noted that responses to the question about reversal may be inaccurate in predicting the actual behavior of couples offered an opportunity for a reversal operation. In making the decision, couples would take into account several factors probably not considered in answering the question: the operation is not completely safe, contrary to the presumption of the question; it involves the inconvenience and discomfort of major surgery; and it is far from 100 percent effective. Thus, the question is more useful as a measure of sterilization regret, probably its purpose, than as a measure of need for reversal services.

The percentage who expressed a desire for reversal is highest for women aged 25-29 (22 percent) and declines sharply with age to only six percent of those 40-44, reflecting a steady decrease with age in the percentage of women who want more children. (It is possible that some of the older women would have wanted reversal when they were younger.) The percentage is also lower, 11 percent, at age 20-24. This may reflect the shorter interval since sterilization during which the women could change their minds about wanting more

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* The questions were worded as follows: "As things look to you just now, if the operation could be safely reversed, that is, changed back, would you want to have it reversed? Would you say definitely yes, maybe yes, or definitely not?" and "Would your husband like to have it reversed? Would you say definitely yes, maybe yes, or definitely not?". By this definition, there are approximately 880,000 women or couples who desire sterilization reversal. As may be seen at the bottom of Table W-6, about 620,000 of these would require reversal of female sterilization, 250,000 male reversal, and 16,000 reversal surgery for both partners.

children. Of all women who would like reversal, the majority are age 25-29 (30 percent) or 30-34 (32 percent).

Sterilized black women are no more likely than non-black women to desire more children, but of those who do want more children, a higher proportion of the blacks say they are willing to undergo reversal surgery in order to have the children. Thus, 17 percent of black women compared to nine percent of non-black women would like reversals, and blacks make up 18 percent of the women who would choose reversal.

Almost half (49 percent) of the sterilized Hispanic women would like more children, and a majority of these (61 percent) would choose reversal. In all, 30 percent of the sterilized Hispanics say they would like reversal, compared to nine percent of non-Hispanic women. This is a striking cultural difference that requires further research before one can be confident of the correct interpretation. For example, it has been suggested that some Hispanic women may express sterilization regret in order to satisfy the dictates of their religion, but would not in fact seek to have the sterilization reversed.

Women who are not currently married are more likely than married women to express a desire for reversal (21 vs. eight percent), possibly reflecting changes in plans of those who are separated, divorced or widowed. Nevertheless, because most sterilized women are married, two-thirds of the women desiring reversal are married. Some may have married or remarried after being sterilized.

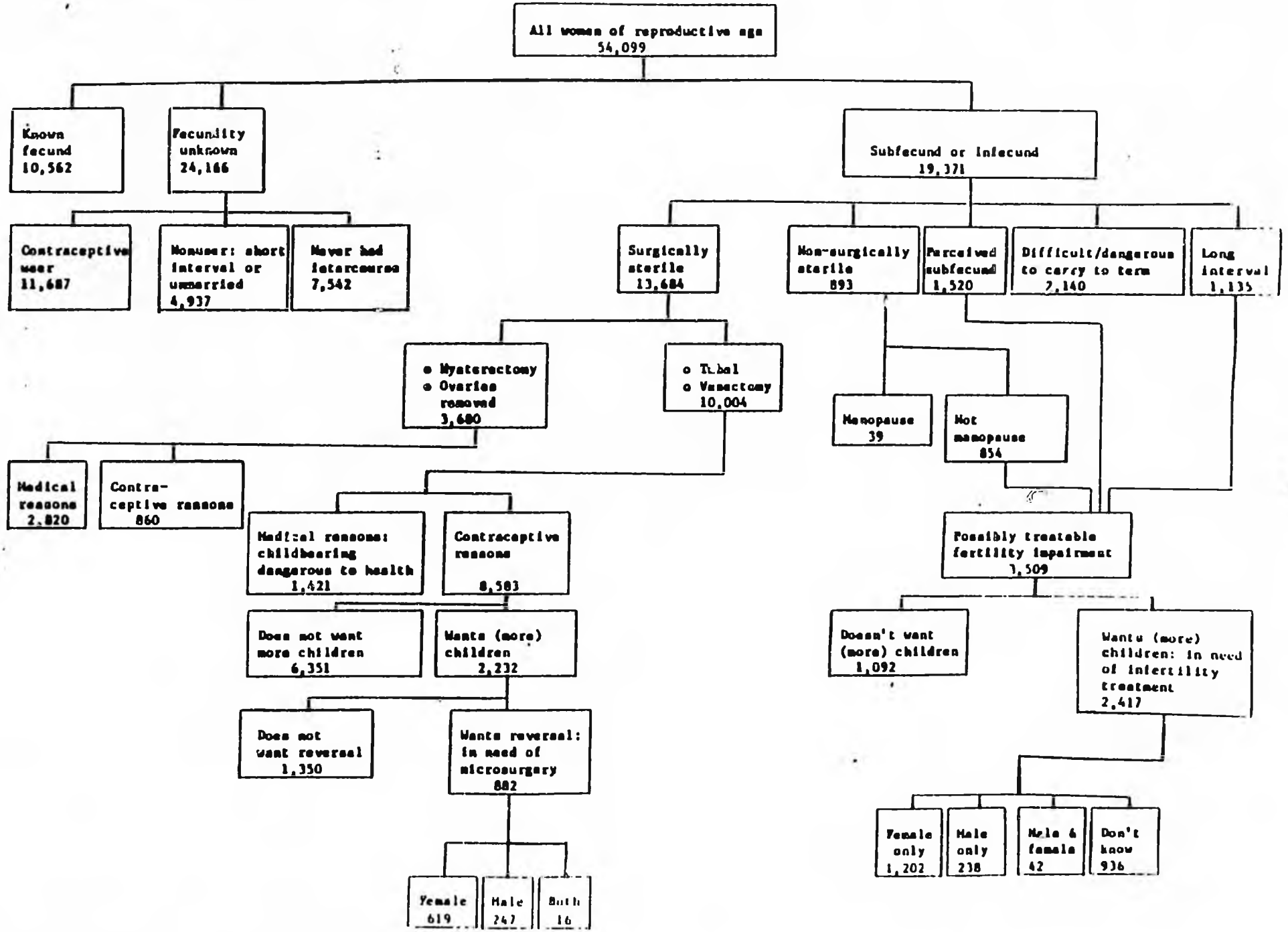
It appears that couples where the woman is nulliparous are more likely than those with children to desire reversal, but the difference is not statistically significant because there are so few nulliparous women who are sterilized themselves or whose husband has had a vasectomy.

Geographic location has no statistically significant relation to desire for reversal, although the Northeast appears to be lower than the other regions on this variable.

Poor women are more likely than other women to say they would like to have their sterilizations reversed (17 vs. 8 percent), both because they are more likely to want more children and to want a reversal, and 35 percent of those desiring reversal are under 150 percent of the poverty level. When age is controlled, the difference in the proportion wanting more children disappears but, among those who want more children, the poor are more likely to want reversal, although the difference is no longer statistically significant. Since poverty is correlated with race and Hispanic ethnicity, it is possible that some of the poverty status difference is caused by cultural differences rather than economic factors.

Twenty-eight percent of sterilized Medicaid recipients desire reversals, as compared to nine percent of other women, reflecting a higher proportion of Medicaid recipients desiring more children and, among those wanting more children, a much higher proportion wanting reversal. About 130,000 women, 15 percent of the total, are Medicaid recipients who desire reversal.

Chart 1: Classification of all Women Aged 15-44 by Their Fecundity Status and Need for Infertility Services



Note. Numbers in boxes are numbers of women in thousands

Table W 1: Number of Women 15-44 Years of Age and Percentage Distribution by Fecundity Status, According to Various Characteristics, United States, 1982

Characteristics	Total Women (000's)	Total	Fecundity Unknown: Known Fecund	Fecundity Unknown: Contraceptive User	Fecundity Unknown: Non-User	Fecundity Unknown: Not Sexually Active	Subfecund or Infecund: Total	Surgically Sterile: Contraceptive	Surgically Sterile: Non-contraceptive	Non-surgically Sterile	Perceived Subfecund	Difficult/Dangerous to Carry to Term	Long Interval: Total	Long Interval: 36+ Mos.	Long Interval: 24-35 Mos.	Long Interval: 12-23 Mos.
All Women	54,099	100	19.5	21.4	9.1	13.9	35.9	17.5	7.8	1.7	2.8	4.0	2.1	1.1	0.3	0.7
Years of Age																
• 15-19	9,521	100	15.0◆	15.9◆	11.5◆	54.7◆	2.8◆	+◆	0.0◆	*0.5◆	*0.9◆	*1.3◆	*0.1◆	+◆	+	*0.1
• 20-24	10,629	100	29.9	20.1	12.0	14.7	14.3	3.7	*0.6	*0.9	2.7	4.0	2.4	*0.2	*0.5	*1.7
• 25-29	10,263	100	32.5	26.0	8.4	3.1	29.0	12.1	3.7	*1.5	4.1	5.1	2.5	*1.0	*0.6	*0.9
• 30-34	9,381	100	21.0	21.3	7.6	*2.0	48.2	26.8	10.1	*1.7	4.0	3.6	*2.0	*1.0	*0.2	*0.8
• 35-39	7,893	100	7.0	16.6	6.7	*1.8	68.1	35.2	18.4	3.1	3.1	5.5	*2.8	*2.4	+	*0.4
• 40-44	6,412	100	*1.4	15.8	7.4	*1.0	73.6	39.4	21.8	*3.0	*1.7	4.5	*3.2	*2.9	0.3	+
Race																
• Black	6,985	100	21.0	22.3	13.1◆	10.3◆	33.1	14.8◆	7.3	1.5	2.4	4.5	2.7	1.4	*0.5	*0.8
• Non-black	47,114	100	19.3	21.5	8.5	14.5	36.2	17.8	7.9	1.7	2.9	3.9	2.0	1.0	*0.3	0.7
Ethnicity																
• Hispanic	4,393	100	27.0◆	16.1◆	9.1	15.0	32.9	12.1◆	6.1	*2.1	3.6	6.0	*3.0	*1.8	*0.1	*1.1
• Non-Hispanic	49,706	100	18.9	22.1	9.1	13.8	36.0	17.9	8.0	1.6	2.7	3.8	2.0	1.0	*0.3	0.7
Marital Status																
• Currently married	28,231	100	25.9◆	19.3◆	2.0◆	0.0	52.6◆	27.8◆	11.0◆	2.0	3.3	4.7	3.8◆	2.0◆	*0.8	*1.1◆
• Not currently married	25,868	100	12.8	24.1	16.9	29.2	17.3	6.1	4.4	1.2	2.2	3.1	*0.3	*0.1	*0.1	*0.1
Parity																
• 0 births	22,941	100	8.9◆	30.0◆	15.2◆	32.9	13.2◆	1.4◆	1.7◆	2.5◆	3.7◆	2.4◆	1.5◆	*0.7	*0.2	*0.6
• 1 or more births	31,158	100	27.4	15.5	4.6	0.0	52.7	29.3	12.4	1.1	2.2	5.1	2.6	1.4	*0.4	0.8
Want (More) Children																
• No	20,781	100	17.1◆	20.4	6.2◆	3.3◆	52.9◆	33.8◆	8.9	1.7	2.1	4.8	1.6	1.4	*0.1	*0.1◆
• Yes	33,318	100	21.0	22.4	11.0	20.6	25.0	7.2	7.2	1.6	3.2	3.4	2.4	0.9	*0.4	1.1

(cont.)

Table W 1 (cont.): Number of Women 15-44 Years of Age and Percentage Distribution by Fecundity Status, According to Various Characteristics, United States, 1982

Characteristics	Total Women (000's)	Fecundity Unknown				Subfecund or Infecund								
						Surgically Sterile					Difficult/ Dangerous to Carry to Term	Long Interval		
		Total	Known Fecund	Contraceptive User	Non-User	Not Sexually Active	Total	Contraceptive	Non-contraceptive	Non-surgically Sterile	Perceived Subfecund		Total	36+ Mos.	24-35 Mos.	12-23 Mos
Metro Status																
o Metrop.	43,199	100	19.4	21.9	9.5	14.4	34.8◊	17.0	7.4	1.7	2.9	3.6	2.2	1.1	*0.3	0.8
o Nonmetrop.	10,900	100	20.2	20.3	7.6	12.2	39.6	19.3	9.6	*1.4	2.5	5.2	*1.6	*0.9	*0.2	*0.5
Region																
o Northeast	11,852	100	18.1	25.8◊	10.8	16.9◊	28.5◊	14.2◊	5.1◊	*0.9◊	2.0	3.5	2.8	*1.6	*0.3	*0.9
o Northcentral	13,981	100	18.9	20.6	8.3	14.4	37.8	19.2	8.5	1.7	3.3	3.6	*1.5	*0.6	*0.3	*0.6
o South	17,308	100	19.7	20.7	7.9	12.2	39.6	18.2	9.7	1.6	2.6	5.1	2.4	*1.3	*0.4	*0.7
o West	10,958	100	21.5	19.7	10.4	12.9	35.5	17.5	7.1	2.5	3.5	3.1	*1.8	*0.9	*0.2	*0.7
Poverty Status																
o <150% of poverty	13,843	100	26.4◊	16.5◊	12.3◊	14.1	30.5◊	13.9◊	7.4	*0.8◊	1.7◊	5.0	1.7◊	0.8	*0.2	*0.7
o >150% of poverty	40,256	100	17.1	23.4	8.0	13.9	37.6	18.7	8.0	1.9	3.2	3.6	2.2	1.2	*0.3	0.7
Poverty by Age																
<30, <150%	9,503	100	33.7§	17.9§	12.4	20.1§	16.0	5.8	*1.9	*0.7	*1.5§	4.4	*1.7	*0.4	*0.3	*1.0
<30, ≥150%	20,910	100	32.7	27.1	9.8	24.8	15.5	5.2	1.3	*1.1	3.1	3.1	1.7	*0.4	*0.4	*0.9
≥30, <150%	4,340	100	10.6	13.3§	12.2§	*0.9	63.1	31.7	19.6	*1.1	*2.3	6.4	*2.0	*1.8		*0.2
≥30, ≥150%	19,346	100	11.1	19.4	6.1	2.1	61.4	33.3	15.2	2.8	3.3	4.1	2.7	2.0	*0.2	*0.5
Medicaid Status																
o on Medicaid	3,964	100	36.8◊	12.3◊	11.3	6.8◊	32.9	13.4	10.2	*1.1	*1.6	*5.4	*1.1	*0.1◊	*0.1	*0.9
o not on Medicaid	50,135	100	18.2	22.3	9.0	14.5	36.1	17.8	7.7	1.7	2.9	3.8	2.2	1.2	*0.3	0.7

* Relative standard error is 30 percent or greater

◊ Difference between demographic subgroups is statistically significant ($p < .05$, 2-tailed t-test). For age and region, at least one of the differences is statistically significant.

§ The difference between this percentage and the one immediately below it is statistically significant ($p < .05$, 2-tailed t-test).

Note: + = Less than 0.1 percent

Table W-2: Number and Percentage Distribution of Women 15-44 by Fecundity Status, 1982

	Women (000's)	Percent			
Total	54,099	100.0%			
Known fecund	10,562	19.5			
Fecundity unknown	24,166	44.7	100%		
Contraceptive user	11,687		48		
Non-user (short interval or unmarried)	4,937		21		
Never had intercourse	7,542		31		
Subfecund or infecund	19,371	35.8	100%		
Surgically sterile	13,684		71	100%	
Hysterectomy, ovaries removed	3,680			27	
Tubal, vasectomy	10,004			73	100%
Medical reasons (childbearing dangerous)	1,421				14
Contraceptive reasons	8,583				86
Nonsurgically sterile	893		5	100%	
Menopause	*39			*4	
Not menopause+	854			96	
Perceived subfecund+	1,520		8		
Difficult/dangerous to carry to term	2,140		11		
Long interval+	1,135		16	100%	
36 months or more	586			52	
24-35 months	*154			*14	
12-23 months	395			35	

* Relative standard error is 30 percent or greater

+ Possibly treatable fertility impairment

Table W-3: Number and Percentage of Women with Possibly Treatable Infertility Problems Who Want (More) Children, by Type of Problem, Sex of Person Needing Treatment and Infertility Services Received, United States, 1982

	Total Treatable, Infertile		Non-surgically Sterile+		Perceived Subfecund		Long Interval	
	#(000's)	%	#(000's)	%	#(000's)	%	#(000's)	%
Total	3,509	100	854	100	1,520	100	1,135	100
Want (more) children	2,417	69	530	62	1,082	71	806	71
Of those who want more children, person needing treatment								
Total	2,417	100%	530	100%	1,082	100%	806	100%
Female only	1,202	50	263	50	939	87	0	0
Male only	238	10	164	31	*74	*7	0	0
Both	*42	*2	*10	*2	*31	*3	0	0
Not known/Not asked	936	39	*92	*17	*38	*4	806	100
Among those who want more children, services received	2,417	100%	1,082	100%	530	100%	806	100%
Advice	387	16	*143	*27	*188	*17	*56	*7
Treatment	787	33	*219	41	401	37	*168	*21
None	1,242	51	*168	32	493	46	581	72

* Relative standard error is 30 percent or greater

+ Excludes menopause

Table W-4: Number and Percentage Distribution of Women in Need of Infertility Services, by Selected Characteristics, United States, 1982

Characteristic	In Need of Infertility Services+	
	#(000's)	%
All Women	2,417	100
Years of Age		
o 15-19	*115	*5
o 20-24	564	23
o 25-29	751	31
o 30-34	529	22
o 35-39	337	14
o 40-44	*120	*5
Race		
o Black	268	11
o Non-black	2,149	89
Ethnicity		
o Hispanic	282	12
o Non-Hispanic	2,134	88
Marital Status		
o Currently married	1,803	75
o Not currently married	614	25
Parity		
o 0 births	1,422	59
o 1 or more births	995	41
Metro Status		
o Metropolitan	1,982	82
o Nonmetropolitan	435	18
Region		
o Northeast	440	18
o Northcentral	694	29
o South	765	32
o West	519	21
Poverty Status		
o <150% of poverty	374	15
o >150% of poverty	2,043	85
Medicaid Status		
o on Medicaid	*101	*4
o not on Medicaid	2,316	96

* Relative standard error is 30 percent or more

+ Those who have possibly treatable fertility impairment (other than surgical sterilization) and want more children

Table W-5: Percentage of Women in Need of Infertility Services, Percent Who Have Received Services, and Number in Need Who Have Not Received Services, by Various Characteristics, United States, 1982

Characteristics	Total Women	Percent in Need of Infertility Services+	Of Those in Need of Services, Percent Who Have Received Services	Women in Need Who Have not Received Servic
	#(000's)	%	%	#(000's)
All Women	54,099	4.5	4[illegible]	1,242
Years of Age				
o 15-19	9,521	*1.2♦	*10♦	103
o 20-24	10,629	5.3	*29	398
o 25-29	10,263	7.3	48	392
o 30-34	9,381	5.6	69	167
o 35-39	7,893	4.3	57	145
o 40-44	6,412	*1.9	70	36
Race				
o Black	6,985	3.8	30♦	187
o Non-black	47,114	4.6	51	1,056
Ethnicity				
o Hispanic	4,393	6.4	*39	172
o Non-Hispanic	49,706	4.3	50	1,070
Marital Status				
o Currently married	28,231	6.4♦	57♦	776
o Not currently married	25,868	2.4	24	466
Parity				
o 0 births	22,941	6.2♦	54	647
o 1 or more births	31,158	3.2	40	595
Want (More) Children				
o Yes	33,318	7.3	49	1,242
o No	20,781	-	-	
Metro Status				
o Metropolitan	43,199	4.6	46	1,065
o Nonmetropolitan	10,900	4.0	59	177
Region				
o Northeast	11,852	3.7	39	266
o Northcentral	13,981	5.0	50	346
o South	17,308	4.3	54	348
o West	10,958	4.7	46	282

(cont.)

Table W-5 (cont.): Percentage of Women in Need of Infertility Services, Percent Who Have Received Services, and Number in Need Who Have Not Received Services, b Various Characteristics, United States, 1982

Characteristics	Total Women	Percent in Need of Infertility Services+	Of Those in Need of Services, Percent Who Have Received Services	Women in Need Who Have not Received Servic
	#(000's)	%	%	#(000's)
Poverty Status				
o <150% of poverty	13,843	2.7#	*26#	277
o ≥150% of poverty	40,256	5.1	53	965
Poverty by Age				
o <30, <150% poverty	9,503	3.1§	*26	217
o <30, ≥150% poverty	20,910	5.5	41	677
o ≥30, <150% poverty	4,340	*1.9	*27	60
o ≥30, ≥150% poverty	19,346	4.7	68	288
Medicaid Status				
o on Medicaid	3,964	*2.5	*25	75
o not on Medicaid	50,135	4.6	50	1,167

+ Those with a possibly treatable fertility impairment other than surgical sterilization) who want more children.

* Relative standard error is 30 percent or more.

Difference between subgroups is statistically significant ($p < .05$). For age, at least one of the differences is statistically significant.

§ The difference between this percentage and its one immediately below it is statistically significant ($p < .05$).

Table W-6: Of Couples Who Are Contraceptively Sterilized (Tubal or Vasectomy), Percent Who Want More Children, and Percent, Number and Percentage Distribution of Those who Want Reversal, by Various Characteristics, United States, 1982

Characteristics	Women Contracep. Sterilized #(000's)	Percent Who Want More Children	Want Reversal and Went More		
			%	Number	% Distrib.
All Women	8,583	26	10.3	882	100
Years of Age					
o 15-19	0	-	-	-	-
o 20-24	388	42◆	*11◆	*42	*5
o 25-29	1,221	41	22	269	30
o 30-34	2,351	32	12	285	32
o 35-39	2,441	21	*7	*163	*18
o 40-44	2,183	13	*6	*123	*14
Race					
o Black	916	28	17◆	160	*18
o Non-black	7,667	25	9	722	82
Ethnicity					
o Hispanic	511	49◆	*30◆	151	*17
o Non-Hispanic	8,072	24	9	731	83
Marital Status					
o Currently married	7,177	25	8◆	587	67
o Not currently married	1,406	31	21	295	33
Parity					
o 0 births	318	*39	*22	*70	*8
o 1 or more births	8,265	25	10	812	92
Metro Status					
o Metropolitan	6,639	25	9	625	71
o Nonmetropolitan	1,944	26	13	257	29
Region					
o Northeast	1,599	26	*6	*91	*10
o Northcentral	2,502	23	9	*213	24
o South	2,772	27	14	389	44
o West	1,709	26	*11	*189	*21

(cont.)

Table W-6 (cont.): Of Couples Who Are Contraceptively Sterilized (Tubal or Vasectomy), Percent Who Want More Children, and Percent, Number and Percentage Distribution of Those Who Want Reversal, by Various Characteristics, United States, 1982

Characteristics	Women Contracep. Sterilized #(000's)	Percent Who Want More Children	Want Reversal and Want More		
			%	Number	% Distrib.
Poverty Status					
o <150% of poverty	1,757	30	17#	305	35
o >150% of poverty	6,826	25	8	577	65
Poverty by Age					
o <30, <150% poverty	543	41	*22	*121	*14
o <30, >150% poverty	1,066	41	18	*190	22
o >30, <150% poverty	1,214	25	*15	*184	*21
o >30, >150% poverty	5,760	22	7	387	44
Medicaid Status					
o On Medicaid	466	40	*28#	*132	*15
o Not on Medicaid	8,117	25	9	750	85
Sterilized Person					
Female	5,535	26	11	619	70
Male	2,979	25	8	247	28
Both	*69	*24	*24	*16	*2

* Relative standard error is 30 percent or greater

Difference between demographic subgroups is statistically significant ($p < .05$). For age, at least one of the differences is statistically significant.

IV. Infertility Services: Comparison of Providers

A. Introduction

The resolution of an infertility problem can be a long ordeal, involving tests, drug therapy or surgery to aid couples in conceiving. In cases not resulting from surgical procedures, the infertility problems which are female-related are usually caused by infections and resulting damage or blockage of the fallopian tubes, hormone or ovulation disorders, and endometriosis. Male infertility is most often caused by poor sperm quantity and quality due to blockage of sperm ducts or disorders in sperm production. In some cases, both partners may have problems which result in their infertility. 9/

To determine the scope of infertility services available, physicians and other health care providers were asked which of a range of services they provided, from preliminary screening tests to microsurgery. The procedures cover the more common ones used to diagnose and treat patients whose infertility problems are ovulatory, semen-related or result from tubal or uterine obstruction.

Infertility care often begins with an investigation of a women's ovulation, starting with basal body temperature instruction, for which a woman records information about her ovulation by systematically taking her temperature. If a physician concludes that the woman needs hormonal stimulation to ovulate, Clomid (clomiphene citrate) may be prescribed. If this drug treatment fails, a more potent treatment, prescription of Pergonal (gonadotropins) is necessary; this expensive treatment requires daily monitoring by evaluating urine or blood estrogen levels.

If a physician suspects that the woman is infertile because of blocked or damaged fallopian tubes or other uterine problems, he or she might try to ascertain if the couple has had any general infection or currently has an infection, possibly asymptomatic, gonorrhea or chlamydia. The physician may also use several procedures to examine the uterus and fallopian tubes, including: hysterosalpingogram (which involves injecting a dye into the uterus to detect through x-rays existing blockage of the fallopian tubes), sonography (to get a picture of the uterus), and laparoscopy (the insertion of a thin tube through a small incision to identify visually or through specimens inflamatory disease, endometriosis, ovarian growths, or other damage to the fallopian tubes). Surgery, such as female tubel reconstructive surgery, may be required to repair existing damage. Surgery is also needed to reverse female or male surgical sterilization.

Often, a couple's fertility problems are semen-related and can be diagnosed through a series of tests: a semen analysis (to determine the quantity and quality of sperm in the male's semen); a postcoital test (to determine if the women's cervical mucus is sufficiently fluid and if the man's sperm are healthy enough for ovum penetration); and a sperm antibody test (to determine whether the woman is producing antibodies which prevent the sperm from reaching the site of fertilization). If the husband's/partner's infertility is the result of tubel damage, male microsurgery can be performed. If the problem cannot be resolved, the couple may elect to undergo artificial insemination by a donor. Although this is a simple medical procedure, it requires access to a sperm bank or donor services and may have to be repeated a number of times.

According to the guidelines to Title X of the Public Health Service Act, which provides funding for family planning services, family planning service grantees are required to make basic infertility services available to clients requesting such services. The services that may be supported by Federal funds are categorized into three levels of service. These are:

- Level I (initial infertility interview, education, physical examination, lab tests, counseling, and referral),
- Level II (semen analysis, basal body temperature instruction, endometrial biopsy, postcoital testing), and
- Level III (more sophisticated and complex services).

Title X grantees must provide at least the services included at Level I. Only grantees with infertility programs supervised by physicians with special infertility training can offer Level II or Level III services. The guidelines caution providers about the expense of such procedures and the medical and legal risks involved, implicitly discouraging the use of Title X funds to provide Level II and Level III services.

For purposes of the analysis, family planning agencies and other medical providers that provide none of these services or only infertility counseling were categorized as nonproviders of infertility services. Providers were classified according to the highest level of any infertility service they provide. However, basal body temperature instruction was regrouped with Level I, since almost all of those who provide Level I procedures also provide basal body temperature instruction but often none of the Level II or Level III procedures or services.

The allocation of the procedures about which medical providers were queried to specific levels for this analysis is as follows:

Level I
- Counseling, education, information
- Physical exam, women
- Physical exam, men
- Basal body temperature instruction
- Infection investigation

Level II
- Semen analysis
- Postcoital test
- Endometrial biopsy

Level III
- Sperm antibody test
- Clomiphene (medical drug therapy)
- Gonodotropin (hormone treatment)
- Hysterosalpingogram
- Laparoscopy
- Sonography
- Varicocelectomy
- Female microsurgery
- Male tubal reconstructive surgery
- Artificial insemination, by donor
- Genetic counseling, screening
- In vitro fertilization

Not all of the tests and procedures were included in the survey of physicians and the survey of family planning agencies.

While infertility treatment can entail just the minimal cost of education and counseling, patients often need more extensive tests or surgery costing thousands of dollars. 10/ One infertility specialist estimates that his patients average four weeks of diagnosis and 18 weeks of therapy, costing an average of $2,650. 11/ Such medical care is beyond the financial means of many poor couples unless offered at a reduced fee.

Medicaid is a major source of public funding to medical providers for this service. Many providers are unwilling or unable to accept Medicaid for infertility services because of state-defined limits on the services covered, low reimbursement rate schedules and inconvenient reimbursement procedures.

An additional problem is that some patients may need more than one provider who accepts Medicaid. A complete understanding of a couple's infertility may not be apparent until each partner has undergone a series of tests and treatments to resolve the problem. Such treatment may require visits to several physicians, since many physicians provide only preliminary male and female tests, while few perform more specialized tests and procedures.

Medicaid eligibility requirements make it unlikely that many poor men and women can receive infertility care. Having at least one dependent child and being unmarried is the main way in which poor women of reproductive age qualify for Medicaid coverage; as was shown in Table W-5 of the previous section, they probably need infertility services less than other women of this age. Among women needing infertility care, the number eligible for Medicaid-reimbursed infertility services is equal to only 27 percent of the number of low-income women (Table W-4). Those who are eligible and need services have an additional difficulty obtaining care because it is unclear which tests or procedures are reimbursable under Medicaid. Thus, many poor women who need infertility services are unable to receive free care through their state Medicaid program and must rely on other public funds or forgo services.

B. Private Physicians

Often, the physicians couples consult first if they perceive a fertility problem are obstetrician/gynecologists or general/family practitioners. They may then be referred to urologists or general surgeons, or they may go to these specialists directly if they suspect that the problem is with the male partner. The AGI survey shows (in Table P-1) that a substantial number of physicians in these four groups provide infertility care, although, as will be seen below, many provide only preliminary tests and procedures. Ninety-six percent of obstetrician/gynecologists and 92 percent of urologists provide at least some infertility tests and services as part of their private office practice, while just 35 percent of general/family practitioners and only six percent of the general surgeons do so. There are approximately 45,500 physicians nationally (45 percent of all physicians in the four specialties) who perform some infertility therapy (see Table P-1).

Nonmetropolitan-area physicians are slightly more likely than metropolitan-areas ones to offer infertility services, particularly among general/family practitioners and general surgeons. About 27 percent of the physicians who provide infertility care practice in nonmetropolitan areas (not shown), somewhat more than the 18 percent of women in need of infertility services who live in nonmetropolitan areas (Table W-4). Nevertheless, if a rural woman lives in a community with only one general practitioner, she has only a 47 percent chance of being able to obtain infertility services within her community, while almost all metropolitan areas undoubtedly have at least one obstetrician/gynecologist who provides these services.

Physicians who practice in the Northcentral and Western regions (see Table P-1) and younger physicians (data not shown) are slightly more likely than others to treat infertility problems.

1. Procedures and Tests.

Table P-2 shows the percentage of all physicians, by specialization, region and metropolitan status who provide specific infertility tests and procedures, grouped according to the categorization described above. Thirty-seven percent of physicians in the specialties surveyed provide at least one of the preliminary, Level I procedures (basal body temperature instruction and infection investigation) and 29 percent provide both. Most obstetrician/gynecologists (82 percent) provide both services, while no more than 22 percent of the other two specialties provide both. Physicians practicing in the Northcentral and Western Regions are more likely to provide these services than are those practicing elsewhere. Nonmetropolitan-area physicians are slightly more likely than those in metropolitan areas to provide basal body temperature instruction.

Physicians were asked about two Level II diagnostic tests - semen analysis and postcoital tests. Physicians in the specialties surveyed were more likely to perform at least one Level II test (42 percent) than a Level I test, mainly because 83 percent of urologists do semen anlysis, while the Level I procedures fall outside this specialty. Semen analysis, although classified as a Level II service, is performed by as many physicians as provide the Level I services, including 32 percent of general/family practitioners and 71 percent of ob/gyn's, as well as by 83 percent of the urologists. However, relatively few physicians other than ob/gyn's perform postcoital tests. The regional differences in the percentage of physicians performing Level II tests are similar for those of Level I tests, but the differences by metropolitan status are not statistically significant.

Physicians were asked about nine more specialized Level III tests and procedures for diagnosing and treating fertility problems. Except for male tubal reconstructive surgery, these procedures are provided predominantly by ob/gyn's. Two-thirds or more of physicians in this specialty provide clomiphene therapy, hysterosalpingograms, laparoscopy, and sonography. About half provide treatment with gonadotropin, and a third do female microsurgery and artificial insemination by donor.

Sixty-two percent of the urologists, but almost none of the other specialties, perform male tubal reconstructive surgery. Consequently, almost no physicians provide all the Level III procedures asked about.

Only 21 percent of the general/family practitioners provide even one of the Level III procedures. Clomiphene is provided most often by this group (14 percent). Overall, the general/family practitioners appear not to be an important source of specialized infertility care.

Regional differences in the percentage of physicians offering Level III services are minor. However, metropolitan physicians are more likely than those in nonmetropolitan areas to provide all the services except clomiphene therapy.

2. Number of Patients Served Annually.

In the survey of private physicians, respondents were asked to state the approximate number of infertility patients they served in 1982. Projecting the number nationally gives an estimate of 1,550,000 patients served (see Table P-3). The number of unduplicated couples who received services would have been lower than this, since many patients were undoubtedly seen by more than one physician, and both partners may have received services. There may

also be some tendency on the part of physicians to overestimate the number of patients served. Some may have responded in terms of patient visits rather than patients. Data from the National Survey of Family Growth produce an estimate of 1,200,000 couples who consulted a physician about infertility problems in 1981. About 21 percent of these patients received services from a hospital or clinic physician not included in the AGI survey of private physicians, leaving an estimated 950,000 couples who consulted private physicians. When the differences in data sources are taken into account, the results from the NSFG and the AGI survey are not necessarily contradictory.

The number of infertility patients seen varies widely among physicians. The large majority (84 percent) of the general/family practitioners and general surgeons who provide these services reported that they see no more than one infertility patient a month (Table P-3). The average number of patients they saw in 1982 was only nine. Obstetrician/gynecologists and urologists tend to see more, the average being 50 and 56, respectively. Eleven percent of the ob/gyn's and 17 percent of the urologists reported having seen 96 or more infertility patients in 1982. Some of these may specialize in infertility services. The number of patients seen in 1982 ranged as high as 960 for ob/gyn's and 1,200 for urologists.

Based on estimates from this survey, 66 percent of infertility patients receiving services through private physicians are served by obstetrician/gynecologists. Urologists, who represent 13 percent of the four groups who provide infertility services, serve 22 percent; the remainder of the infertility patients are served by general/family practitioners and general surgeons.

Non-metropolitan physicians see fewer patients on average than do physicians in metropolitan areas. Physicians who offer a greater number of infertility tests and procedures tend to serve more infertility patients than do those who have a more limited treatment practice (not shown).

3. Referral Policies.

Given that most physicians who provide infertility care perform only the more preliminary tests and procedures, access to more specialized care depends in part upon the referrals physicians make. Most physicians who provide infertility services will refer patients elsewhere when necessary, usually to another physician. Only three percent say they do not refer female patients for infertility services, and an additional five percent say they have never been asked (see Table P-4). Most of those who have not been asked are urologists, who have little contact with female patients. Most physicians (68 percent) refer female patients to another physician, while some (23 percent) refer to a hospital or infertility clinic which presumably provides specialized infertility services.

Obstetician/gynecologists are more likely than general practitioners to refer female patients to infertility centers or clinics. Since many obstetrician/gynecologists provide relatively complex services for females, when referral is necessary it is often to a facility which specializes in infertility services. Obstetrician/gynecologists, physicians who practice in the South, and those who serve more than 12 infertility patients a year are more likely than others to refer their female infertility patients to a center or hospital rather than to another physician. Forty-two percent of urologists who provide infertility services report they have never been asked to refer female patients, so far fewer of these specialists refer elsewhere.

Almost all physicians who provide infertility services refer their male as well as female patients elsewhere, if necessary: 73 percent to a private physician and 21 percent to a center or hospital (see Table P-5). Three percent do not refer and three percent reported never having been asked to do so. Urologists tend to refer to specialized centers, while the other specialties refer male patients to other physicians, presumably often urologists. Urologists, nonmetropolitan-area physicians and those who serve more than 12 infertility patients annually are more likely than others to refer patients to a center or hospital, rather than to another physician. Sixteen percent of the urologists do not refer male infertility patients elsewhere, which may reflect either the range of services they provide or the requests they have received.

Physicians may not always have the option of referring their infertility patients elsewhere. Nine percent of the physicians who treat infertility problems explained that they sometimes do not refer because the cost of further treatment is prohibitive to their patients, that laboratory facilities are inadequate or that needed treatment is unavailable. Nonmetropolitan-area physicians, general/family practitioners and general surgeons and those who practice in the West are more likely than others to cite these referral problems (data not shown).

4. Financial Access.

Due to the potentially high cost of infertility care, most low-income patients can gain access to services only in facilities which use a sliding fee schedule or, if they are Medicaid-eligible, which accept Medicaid. Otherwise, there is little possibility that they will be able to obtain any infertility services beyond a preliminary evaluation.

The survey results suggest that few women are able to obtain services from private doctors at reduced fees (see Table P-6). Only nine percent of the obstetrician/gynecologists and 11 percent of the urologists provide infertility services and are willing to reduce their fees, and even fewer in the other specialties surveyed do so. Slightly more of the nonmetropolitan physicians provide infertility services at a reduced fee, but even in this group fewer than one in ten do so. No significant differences by region were evident.

Access is somewhat greater for Medicaid-eligible couples. Overall, 21 percent of physicians provide infertility care for which they accept Medicaid reimbursement; 32 percent of obstetrician/gynecologists and 44 percent of urologists do so (see Table P-7). Again, nonmetropolitan physicians are more likely to treat infertility problems and accept Medicaid. Generally, physicians who practice in the Northcentral region are more likely than other physicians to provide infertility services under Medicaid.

Table P-1: Number and Percentage of Physicians Who Provide Infertility Services, According to Their Specialty and Practice Location

Location	Number Who Provide Infertility Services					Percentage Who Provide Infertility Services				
	Total	General/Family Practitioners	Obstetrician/ Gynecologists	General Surgeons	Urologists	Total	General/Family Practitioners	Obstetrician/ Gynecologists	General Surgeons	Urologists
Unweighted N	1,508	220	573	281	434	1,508	220	573	281	434
Total	45,500	17,500	20,600	1,400	6,100	45%^	35%	96%	6%	92%
Metropolitan status										
Metropolitan	33,400	10,100	17,900	900	5,200	44	30^^	96	5	92
Nonmetropolitan	11,900	7,600	2,700	500	1,000	47	47	97	10	94
Region										
Northeast	8,600	-	4,800	-	1,400	41	-	94	-	93
Northcentral	12,900	-	4,600	-	1,400	52	-	98	-	96
South	13,200	-	6,600	-	2,100	40	-	95	-	88
West	11,000	-	4,500	-	1,300	50	-	98	-	94

- Too few to estimate; sample was not selected for regional estimates by this specialty.
^ Differences between specialties are statistically significant (p. <.05).
^^ Difference between metropolitan status groups is statistically significant (p. <.05).

Table P-2: Percentage of All Physicians That Provide Various Infertility Tests and Procedures, Grouped According to Levels, by Specialty and Region

Services by Level	Total	Specialization				Region				Metropolitan Status	
		General/ Family Practitioners	Obstetrician/ Gynecologist	Gen'l Surgeons	Urologists	North-east	North-central	South	West	Metro	Nonmetro
Unweighted N	1508	220	573	281	434	330	355	506	317	1088	420
Percentage who provide at least one service	45%	35%[a]	96%	6%	92%	41%	52%	40%	50%	44%	47%
Level I											
• Includes:											
- Basal body temperature instruction	36	32[a]	94	3	NA	33	44	31	39	35	41
- Infection investigation	30	23[a]	83	4	NA	28	35	27	31	29	31
• Percentage who provide at least one Level I procedure	37	32[a]	95	6	NA	32	44	33	40	35	42
• Percentage who provide all Level I procedures	29	22[a]	82	2	NA	26	35	25	30	28	30
Level II											
• Includes:											
- Semen analysis	37	32[a]	71	5	83	32	45	31	44	36	41
- Postcoital test	25	12[a]	87	1	NA	25	27	22	27	26	22
• Percentage who provide at least one Level II procedure	42	33[a]	92	5	83	38	49	37	46	41	44
• Percentage who provide all Level II procedures	20	11[a]	65	1	0	17	23	16	25	20	18

Table P-2 (Con't.)

Services by Level	Total	Specialization				Region				Metropolitan Status	
		General/ Family Practitioners	Obstetrician/ Gynecologist	Gen'l Surgeons	Urologists	North-east	North-central	South	West	Metro	Nonmetro
Level III											
• Includes											
- Sperm antibody test	12	7[a]	33	1	28	12	14	10	15	14[@]	7
- Clomiphene (medical drug therapy)	27	14[a]	91	1	NA	26	30	26	26	27	26
- Gonadotropin (hormone treatment)	12	4[a]	46	2	NA	11	12	13	11	13	9
- Hysterosalpingogram	24	8[a]	89	3	NA	22	26	22	24	25	20
- Laparoscopy	19	2[a]	85	2	NA	25	17	20	19	22	12
- Sonography	18	7[a]	66	2	NA	20	17	16	20	20	12
- Female microsurgery	7	+[a]	33	1	NA	8	6	8	9	9	4
- Male tubal reconstructive surgery	5	+[a]	1	1	62	4[aa]	5	5	6	5	3
- Artificial insemination, by donor	8	2[a]	34	0	4	8	6	8	11	9[@]	6
• Percentage who provide at least one Level III procedure	36	21[a]	95	5	69	33	39	34	39	37	34
• Percentage who provide all Level Three procedures	+	+	1	0	0	0	+	0	1	1	0

Note: The three levels used to group procedures are based on the Title X categorization of procedures for family planning agencies.

NA = Not asked of this specialty.

\+ Less than one percent.
[a] Statistically significant difference between specialties ($p < .05$)
[aa] Statistically significant difference between regions ($p < .05$)
[@] Statistically significant difference between metro statuses ($p < .05$)

Table P-3: Percentage Distribution of Physicians Who Provide Infertility Services by the Number of Infertility Patients They Reported Serving Annually, and Characteristics of Their Annual Infertility Patient Caseload, by Specialty

Infertility Patients	Total	General/Family Practitioners & General Surgeons	Obstetrician/ Gynecologists	Urologists
Unweighted N	989	92	520	377
o Number Served in 1982				
- Fewer than 13	50%	84%	26%	26%
- 13 to 24	13	6	19	18
- 25 to 48	17	8	24	22
- 49 to 72	10	0	17	14
- 73 to 96	2	0	3	3
- More than 96	8	1	11	17
- Total	100	100	100	100
o Range of patients served	1-1200	1-100	1-960	1-1200
o Average number served	34	9	50	56
o Median served	12	5	25	25
Percentage who served more than 12 patients				
- Of providers	50%	16	74	74
- Of all physicians	23	6	71	68
Projected national total number of patients served	1,550,000	170,000	1,030,000	340,000

Table P-4: Percentage of Physicians Who Provide Infertility Services: Where They Refer Female Infertility Patients, by Their Specialty, Practice Location, and Number of Patients Served

Physician Characteristics	Another Physician	Center/ Hospital	Never Been Asked	Do Not Refer
Unweighted N	598	280	148	43
Total	68%	23%	5%	3%
Specialty*				
Obstetrician/gynecologists	56	36	1	6
General/family practitioners and general surgeons	87	14	0	0
Urologists	45	12	42	3
Metropolitan status				
Metropolitan	66	24	6	4
Nonmetropolitan	74	22	3	1
Region				
Northeast	70	21	6	4
Northcentral	72	23	4	2
South	60	29	6	5
West	73	20	5	2
Number of Infertility Patients Served Annually*				
More than 12	61	28	7	4
Less than 13	76	19	4	2

* Statistically significant ($p < .05$).

Table P-5: Physicians Who Provide Infertility Services: Where They Refer Male Infertility Patients, by Specialty, Practice Location, and Number of Patients Served

Physician Characteristics	Another Physician	Center/ Hospital	Never Been Asked	Do Not Refer
Unweighted N	666	319	41	80
Total	73%	21%	3%	3%
Specialty*				
Obstetrician/gynecologists	77	19	1	3
General/family practitioners and general surgeons	80	16	5	0
Urologists	38	40	6	16
Metropolitan status*				
Metropolitan	74	19	3	4
Nonmetropolitan	70	24	4	2
Region				
Northeast	77	13	7	4
Northcentral	74	21	3	3
South	68	27	2	4
West	76	19	3	2
Number of Infertility Patients Served Annually*				
More than 12	71	23	1	5
Less than 13	75	19	5	1

* Statistically significant difference ($p < .05$).

Table P-6: Of All Physicians, Percentage Who Provide Infertility Services on a Reduced Fee Basis for Low-Income Patients, by Specialty and Practice Location

Location	Percentage of All Physicians			
	Total	General/Family Practitioners & General Surgeons	Obstetrician/ Gynecologists	Urologists
Unweighted N	1476	494	558	424
Total	6%*	5%	9%	11%
Metropolitan status				
Metropolitan	5	3**	9	11
Nonmetropolitan	9	8	10	15
Region				
Northeast	5	-	9	16
Northcentral	6	-	9	11
South	6	-	10	11
West	8	-	9	9

\- Too few to estimate; sample was not selected for regional estimates by this specialty.
* Statistically significant difference between specialties ($p < .05$)
** Statistically significant difference between metropolitan status groups ($p < .05$)

Table P-7: Of All Physicians, Percentage Who Provide Infertility Services and Accept Medicaid Reimbursement, by Specialty and Practice Location

Location	Percentage of All Physicians			
	Total	General/Family Practitioners & General Surgeons	Obstetrician/ Gynecologists	Urologists
Unweighted N	1490	496	567	427
Total	21%*	16%	32%	44%
Metropolitan status				
Metropolitan	17**	12**	27**	40**
Nonmetropolitan	32	27	60	71
Region				
Northeast	19**	-	33**	49**
Northcentral	29	-	44	54
South	16	-	26	34
West	22	-	27	45

\- Too few to estimate; sample was not selected for regional estimates by this specialty.

* Statistically significant difference between specialties ($p < .05$).

** Statistically significant difference between demographic groups within specialty ($p < .05$).

C. Family Planning Agencies

While the primary purpose of organized family planning agencies is to provide medical contraceptive methods to all women at risk of unintended pregnancy, particularly low-income women, family planning services include other medical prodecures as well. In 1980, nine percent of all family planning patients received no contraceptive method at their last visit because they were pregnant or came for other kinds of care. Ten percent of these patients came for specific infertility services (two percent) or were seeking to be pregnant (eight percent). At least 9,000 patients received infertility services. Title X is a major source of funding for most family planning agencies (76 percent of family planning clinic sites received Title X funds in 1983). 12/ Its guidelines require agencies to provide initial infertility screening services and permit them to use Title X funds, within reason, for more extensive infertility care. Up until now, little information has existed about the scope of infertility services that Title X funds are used for or that are provided by other organized family planning agencies.

The survey conducted for this project indicates that as of 1984, 70 percent of all family planning agencies, representing 1,700 agencies, provided infertility services, ranging from only preliminary screening procedures to comprehensive diagnosis and treatment services (see Table A-1). An additional seven percent provided counseling services only and are not considered here to be infertility service providers. Infertility services other than counseling are provided by 78 percent of all hospital agencies, 76 percent of 'other' agencies, 72 percent of Planned Parenthood affiliates, and 66 percent of health department agencies. Metropolitan-area agencies appear to be more

likely than nonmetropolitan area agencies to provide infertility services (74 and 66 percent, respectively), although the difference is not statistically significant. Agencies providing family planning services in the Northeast and West are more likely than others to include infertility services.

1. Procedures and Tests. Table A-2 lists a range of infertility tests and procedures, grouped according to the Title X Levels (I, II, III). Agencies are classified as providers of each service if they offer it on-site at one of their clinics or off-site but funded through their agency. Hospital agencies are more likely than other family planning agencies to offer each procedure, but often these services are available through hospital clinics other than family planning.

Most agencies provide at least one of the five Level-1 procedures, but only 19 percent provide all five (see Table A-2 for procedures grouped under Level I). Over half of all agencies provide counseling and education, initial physical examination for women, basal body temperature instruction and infection investigation. Only 26 percent provide initial exams for male patients. Health departments are least likely of the four agencies to provide at least one Level I procedure (74 percent vs. 78 to 81 percent). Agencies in the South, where health department agencies are most common, are less likely than those in other regions to provide at least one Level I procedure (71 percent vs. 83 to 87 percent).

Level II includes three tests: semen analysis, post-coital test and endometial biopsy. Only 24 percent of all agencies perform at least one of these tests, including 60 percent of the hospital agencies and 15 to 32 percent of the other three types of agencies (as Table A-2 illustrates). Just

nine percent of the agencies perform all three tests, including 44 percent of the hospital agencies. Agencies in the Northeast and, less so, in the West are more likely to offer such tests, primarily because hospital agencies are more common in these regions.

Eleven Level-III infertility procedures and treatments were asked about in the agency survey (see Table A-2). Thirty-seven percent of the agencies provide at least one of these procedures, most commonly genetic counseling and screening (31 percent), clomiphene drug therapy and sonography (15 percent). Few health departments and Planned Parenthood affiliates provide any of these services, except genetic counseling and screening. Just three percent of all agencies, including 15 percent of the hospital agencies, provide all 11 of these services. Northeastern agencies are far more likely than other agencies to provide each procedure (except genetic counseling, screening); 10 percent of the Northeastern agencies provide all 11 procedures, while less than five percent of the others provide as many.

2. Reasons More Services Are Not Provided and Referral Policies. All agencies were asked why they did not provide some or all infertility services. As may be seen in Table A-3, the most common reasons given were that the agencies lack appropriately trained staff (77 percent), these services are too costly to provide (67 percent), and they lack lab facilities (64 percent). Over half the agencies also cited too little demand for these services among their patient population and the presence of other medical providers in the area offering these services.

Agencies that provide some infertility services were as likely as those that do not to cite these reasons for not providing more services (see Table A-3). However, the agencies differ by type and by region in the reasons given for not providing some or all infertility services. Hospital agencies most commonly cited the existence of other medical providers in the area as the reason for not providing more infertility care (55 percent); none of the other reasons were cited by more than 46 percent of the hospital agencies. Over 80 percent of the health department agencies cited the lack of trained staff and the lack of lab facilities as their deterrent to providing more infertility care. More than 70 percent of the Planned Parenthood affiliates cited the lack of trained staff and the existence of other medical providers as their reasons. Finally, the most common reason cited by other types of agencies was the lack of trained staff (74 percent).

Reasons differ somewhat by region. Too little demand and costly/inconvenient are the reasons most frequently mentioned in the Northcentral Region, while lack of facilities -- trained staff and lab -- were most commonly mentioned in the South. The presence of other medical providers and lack of staff were the main reasons in the Northeast, and lack of staff and costly/inconvenient were the principal reasons in the West. These reasons largely reflect the types of family planning agencies in each region.

Agencies in nonmetropolitan areas were more likely than those in metropolitan areas to mention all the reasons except the presence of other medical providers offering the services. Lack of trained staff and lack of lab facilities were the reasons cited most frequently by nonmetropolitan agencies.

Ninety-two percent of the agencies will refer patients elsewhere for infertility services they do not provide. Interestingly, nonproviders are less likely to refer these patients elsewhere than are providers. Hospitals and health departments are less likely to refer than are Planned Parenthood and other agency types.

3. Referrals. Tables A-4 and A-5 show where agencies refer female and male patients for services not provided by the agency. Approximately half the agencies that refer female patients will send them to a specific private physician, regardless of the type of care needed, whether specialized tests or preliminary examination (see Table A-4). About 20 to 24 percent that refer female patients recommend infertility treatment centers and 24 to 31 percent recommend other sources of care, depending upon the procedures needed. Six to eleven percent refer patients to facilities within their agency system.

Hospital agencies are more likely to refer female patients within the hospital system (19 to 27 percent) than are other agencies to refer patients to specific clinics within their agency system (see Table A-4). Hospital agencies are less likely than other agencies to refer female patients to a private physician and more likely to recommend a specialized center or another hospital. Agencies that provide infertility services are more likely to refer female patients to hospitals and, less so, infertility treatment centers, than are nonproviders of infertility services.

Family planning agencies that refer infertility patients are less likely to refer male patients for each of the procedures than they are to refer female patients (21 to 24 percent vs. 2 to 4 percent do not refer), which may reflect the lack of male patients requesting such services. Aside from this

difference the distribution of where agencies refer male patients is similar to where they refer female patients (see Table A-5).

These results support the conclusion from the NSFG analysis that specialized infertility treatment centers serve a relatively small proportion of all infertility patients, and that most care is provided by private physicians.

4. Restrictions. Forty-four percent of the family planning agencies providing infertility care have at least one restriction in their provision of these services, noted in Table A-6. Twenty-five percent will serve only patients seeking to become pregnant, not those who are curious about whether they are fertile. Ten percent require prior agency approval before providing specialized test procedures. This is presumably a financial measure to control the amount of money and time devoted to infertility services. Fewer than 10 percent restrict their services to couples only, those with primary infertility problems, those over a minimum age (18 years on average), or under a maximum age (40 years on average). Overall, these restrictions do not appear to constitute major obstacles for patients needing infertility services.

5. Patients Served Annually. Only half of the family planning agencies providing infertility care could estimate the number of patients served annually. Among those that could provide estimates, the median number of female infertility patients annually was nine; the median number of male infertility patients served was five (see Table A-7). The agencies differed greatly in their volume of infertility patients, ranging from one to 1000 female patients annually; just 36 percent of those providing infertility

services serve more than 12 female infertility patients annually. Agencies providing specialized tests tend to serve more female patients than agencies providing preliminary tests only.

6. Service Funding. Most family planning agencies use multiple funding sources to support their infertility services. Eighty-four percent use more than one source, with an average of three funding sources used by the various providers (see Table A-8). Patient fees are the most common source of funds for this service, cited by 81 percent of the agencies providing infertility services. Seventy-three percent accept Medicaid reimbursements and 56 percent use Title X funds for infertility services provision (seven percent also had a special Title X initiative grant). Thirty-nine percent of all family planning agencies use Title X funds for infertility services. Less commonly used funding sources are state and local funds (35 percent of the agencies providing infertility services), Social Services block grant funds (22 percent), Maternal and Child Health block grant funds (17 percent), or other sources (11 percent), including Indian Health Services funds or private contributions.

A number of agencies obtain Medicaid reimbursement for some infertility services but not others. While 74 percent will accept Medicaid for an initial exam, fewer, 62 percent, accept Medicaid for counseling services (as Table A-9 shows). No more than 21 percent of the infertility service providers accept Medicaid for other types of services. This pattern reflects both the types of services agencies provide and state reimbursement policies.

The agencies' public funding for infertility services permits them to make these services available to low-income women and men. Seventy-three percent

of the family planning agencies that provide infertility care use an income-based sliding fee schedule or serve low-income women without charge (as noted in Table A-9). Twenty-eight percent of the agencies providing infertility services also will accept insurance reimbursements as payment in full or will serve low-income patients for free.

Agency differences in fee and Medicaid-acceptance policies are reflected in the composition of their infertility patient caseload. In thirty-one percent of the agencies providing infertility services, patients served without charge comprise at least 50 percent of their patient population; in 17 percent of the agencies, reduced-fee patients are 50 percent or more of their infertility patients. In 15 percent of the agencies, Medicaid patients are a majority of their patient infertility caseload. In 83 percent of the agencies, a majority of the infertility patients receive either free, reduced-fee or Medicaid-reimbursed services.

Table A-10 illustrates maximum fees charged for selected infertility services. While an initial infertility visit averages $49.25 among these family planning agencies, the charge for this visit can range widely from $5 to $125. Additional tests are also costly: A post-coital test averages $42 and a semen analysis $31. Diagnostic procedures to check for blocked tubes, for example, are much more expensive: a hysterosalpingogram averages $418 and a laparoscopy, $1,117. Even drug therapy, such as clomiphene, can be an expensive addition: five tablets averaged $22. The charges for all these procedures varied widely among the agencies. Low-income women and men would be unable to obtain these services without the flexible fee policies and Medicaid policies of most agencies.