

VITAL and HEALTH STATISTICS

DATA FROM THE NATIONAL VITAL STATISTICS SYSTEM

visits for
Medical and Dental Care
During the Year Preceding
Childbirth
United States - 1963 Births

Statistics on the volume and timing of visits to physicians and medical facilities and the frequency of visits to dentists during the year preceding childbirth by socioeconomic and demographic characteristics of the mother. Based on data collected by the National Natality Survey of births in 1963.

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IN THIS REPORT statistics are presented on the medical care received during the 12 months prior to childbirth by mothers who had liveborn babies in 1963. Estimates on the average number of visits to physicians and to medical facilities and the percentage who made their first visit during each 3-month period are given for all mothers. Estimates of the percentage who visited a dentist during the year are given only for mothers who had legitimate births.

These statistics are based on data collected in a mail survey with questionnaires sent to the mother, the attending physician, the hospital where the birth took place, and to any other physician, dentist, hospital or other medical facility named by the first three sources. In cases where there was no response to three mailed questionnaires, followups by telephone or by personal interview were attempted.

The mothers about whom information is presented in this report are classified by age, number of live births, color, educational achievement, family income in 1962, geographic region, and metropolitan status.

The mothers who had a liveborn child in 1963 made, on the average, 11.5 visits for medical care during the 12 months prior to the birth of the child. There was little variation by age of mother, geographic region, or metropolitan status. Mothers made more visits for first births than for later births. The average number of visits was highest for white mothers and for mothers in high income or education classifications. Women in these categories also began their medical care earlier in the year than the average woman. Mothers of illegitimate babies made, on the average, fewer visits than mothers of legitimate babies in any educational or income class. Only 26 percent of the women reported having visited a dentist during the 12 months.

SYMBOLS

Data not available-----	---
Category not applicable-----	...
Quantity zero-----	-
Quantity more than 0 but less than 0.05----	0.0
Figure does not meet standards of reliability or precision-----	*

VISITS FOR MEDICAL AND DENTAL CARE DURING THE YEAR PRECEDING CHILDBIRTH

Mary Grace Kovar, Division of Vital Statistics

INTRODUCTION

During the past few years an increasing amount of attention has been focused on the related problems of neonatal mortality, congenital malformations or other birth defects, and maternal mortality. It is generally accepted that adequate medical care during pregnancy would reduce the incidence of such problems.

This report is an attempt to examine some of the variations in the timing and amount of medical care that women receive during the 12-month period preceding childbirth. No attempt is made to evaluate the quality of the care. The measures are the time of the first visit and the average number of visits made by women in certain socioeconomic or demographic groups. Estimates of the average number of visits are shown separately for visits to physicians and visits to medical facilities. In addition, there is a limited amount of data on the percentage of women who visited a dentist during the year.

SELECTED FINDINGS

During 1963 slightly over 4 million women had babies in the United States. The average woman made 11.5 visits for medical care during the year before her child was born. Approximately three-fourths of these visits were to physicians; the other one-fourth were to clinics, hospitals, or other medical facilities.

On the average, white mothers made 12.2 visits during the 12-month period and nonwhite mothers, 7.7. Thus, the average white mother had 60 percent more visits than the average nonwhite mother.

As the family income increased, the number of visits for medical care also increased. Women living in families with an income in 1962 under \$3,000 made, on the average, 9.3 visits for medical care, while women living in families with an income of \$10,000 or over averaged 13.7 visits. Among women in the lowest income group, 34 percent of the visits were to medical facilities. Among women in the highest income group only 17 percent of the visits were to medical facilities. The family income is not known for mothers of illegitimate children but these women made only 7.1 visits each for medical care, and 51 percent of their visits were to medical facilities.

The average number of visits was also higher for women who had completed more years of school. Women who had not gone beyond the eighth grade made 8.9 visits on the average, while those who had attended college made 13.6 visits.

If the child selected in the sample was the first birth, the mother made more visits than the mother who had already had children.

Almost 20 percent of the women made no visits either to a physician or to a medical facility until the third trimester of pregnancy. An additional 2 percent made no visits at all during the 12 months before childbirth.

Data for dental visits are available only for mothers of legitimate births. Almost 73 percent of these women reported that they had not seen a dentist during the year before the baby was born.

SOURCES AND LIMITATIONS OF DATA

The 1963 National Natality Survey was designed primarily to collect data about exposure to radiation during the prenatal period. For that reason the questionnaire was designed to elicit information about the number and kinds of X-ray procedures and the dates when they were carried out. It was not designed to obtain information about the reason for the visit or the date of each visit. However, the date of the first visit during the year before the child was born and the total number of visits during the year were among the questions asked of all physicians, medical facilities, and dentists; and this report is based on the answers to those questions.

It is unfortunate in some ways that the reason for the visit is not known since it would make possible a distinction between prenatal care and general medical care. However, unless the definitions were drawn very carefully such a distinction might actually cause an underestimate of the amount of prenatal care since a pregnant woman who had a general medical condition, such as diabetes, might be coded as having a visit for the care of her condition and thus excluded from a tabulation of visits for prenatal care when actually the two are so closely related that one cannot help but influence the other. The system used in this report at least has the advantage of clarity. The visits included are all visits made for whatever reason during the 12-month period prior to the birth of the baby.

As part of the internal audits on the consistency of the data, the estimates from the National Natality Survey were compared with the estimates obtained from another survey conducted by the National Center for Health Statistics, the Health Interview Survey. The Health Interview Survey is conducted by personal interview, a reliable adult in the household is the respondent, and the respondent is asked specifically about prenatal and postnatal care. The National Natality Survey is conducted by mail, the respondent for the

number of visits to physicians is the physician himself, and the respondent is asked about any visits during the 12-month period prior to the birth. The estimated number of visits to physicians during the 12 months before childbirth from the National Natality Survey is 35,438,000 and the estimated number of visits to physicians for prenatal and postnatal care from the Health Interview Survey is 35,403,000.¹ The closeness of the two estimates makes one confident that the data contained in this report can be used as a measure of prenatal care.

These data are based on information recorded on the certificate of birth and on questionnaires mailed to the mother, the hospital where the birth took place, the attending physician, and to any other hospital, physician, or dentist named by the first three sources. For reasons of State clearance and confidentiality, questionnaires were not mailed to mothers where it was either stated or inferred from the birth certificate that the birth was illegitimate. Information which could be obtained only from the mother is therefore not available for such births.

Information about the geographic region, metropolitan status, color, age of mother, and live-birth order was obtained from the birth certificate and is therefore available for all mothers.

Because the name of the attending physician and the hospital (if any) where the birth took place were also obtained from the birth certificate, information about the date of the first visit and the number of visits is available for all mothers.

Information about the family income, education of the mother, and the names of dentists whom she had visited, was obtained from the questionnaire which was sent to the mothers and is therefore available only for mothers of legitimate births.

Thus, the information about the timing and number of visits to physicians or medical institutions is relatively independent of the mother's response since the primary sources for this type of information were the physician and the institution named on the birth certificate. The mother's response was used mainly as a cross-check to make certain that no source of medical care was overlooked.

However, the mother's response was the only source of names of dentists and if the mother was not sent or did not respond to the questionnaire, no information on dental care could be obtained. Since the data for dental visits are not available for mothers of illegitimate children, the section on dental visits includes legitimate births only.

There is one other small group of mothers for whom data are not available. In the second 6 months of 1963 Missouri withdrew from the

survey for technical reasons, therefore no questionnaires were mailed to 45 mothers who should have been included in the survey. In addition, questionnaires were not mailed to nine mothers who at the time of the survey were living outside the United States although they had given birth within the United States. Excluding these 54 cases does not affect the number of visits per mother since all rates are based on the number of mothers with a known number of visits. It does inflate

Table A. Number and percent distribution of surveyed mothers, physicians, medical facilities, and dentists by response status according to color of mother: United States, 1963 births

Source and color of mother	Number in the survey	Respondents by number of mailing					Non-respondents
		Total respondents	First mail	Second mail	Third mail	Personal interview	
<u>Mother</u>		Percent distribution					
Total-----	13,726	86.4	45.3	29.2	6.8	5.1	13.6
White-----	3,218	87.7	48.0	28.5	6.7	4.4	12.3
Nonwhite-----	508	78.1	28.1	33.3	7.3	9.4	21.9
<u>Physician</u>							
Total-----	4,474	93.1	66.5	17.6	9.0	...	6.9
White-----	4,012	93.5	67.8	17.0	8.7	...	6.5
Nonwhite-----	462	89.2	55.2	22.7	11.3	...	10.8
<u>Medical facility</u>							
Total-----	4,432	97.6	77.4	15.3	4.9	...	2.4
White-----	3,685	98.0	78.5	15.0	4.5	...	2.4
Nonwhite-----	747	95.7	72.0	17.0	6.7	...	4.3
<u>Dentist</u>							
Total-----	1,360	97.1	81.2	11.5	4.4	...	2.9
White-----	1,275	97.7	82.4	11.2	4.1	...	2.3
Nonwhite-----	85	87.1	63.5	15.3	8.3	...	12.9

¹There were 4,096 births selected in the sample but 316 were illegitimate and so the mother was not queried and 54 were excluded for other reasons. However, medical inquiries were sent in all cases where a medical source of information was identified.

Table B. Average number of visits to physicians and medical facilities during the year before childbirth, by geographic region, metropolitan status, and color, and percent of births that were white: United States, 1963 births

Geographic region and metropolitan status	Average number of visits			Percent of births that were white
	Total	White	Nonwhite	
United States-----	11.5	12.2	7.7	83.9
<u>Region</u>				
Northeast-----	11.0	11.3	8.1	89.0
North Central-----	11.9	12.2	8.3	90.3
South-----	10.9	12.1	7.2	72.2
West-----	12.8	13.4	8.2	88.8
<u>Area</u>				
Metropolitan areas-----	11.7	12.4	7.7	83.7
Nonmetropolitan areas-----	11.2	11.7	7.5	84.5

the percentage of mothers about whom information is missing, particularly in the North Central Region.

As is true for all surveys and particularly for mail surveys, a certain proportion did not respond to the questionnaire. The problem was handled in a series of procedures. First, two followup questionnaires were sent at 2-week intervals, one by regular mail and one by certified mail. Second, if the mother's usual place of residence was in one of the Census Bureau's primary sampling units, interviewers employed by the Bureau tried to interview the mother either by telephone or in person. No personal interview was attempted for medical sources. The results of these procedures are shown in table A.

In order to reduce the effect of nonresponse, statistics derived from the survey of the mothers were adjusted for nonresponse by imputing to nonrespondents the characteristics of "similar" respondents. The technique is discussed in Appendix I of this report and a detailed description can be found in an earlier report in this series.² No imputation for unit nonresponse was done for medical sources.

VOLUME OF VISITS

In the United States women who had a live-born baby in 1963 visited a physician or medical facility an average of 11.5 times during the year before the baby was born (tables B and 1). Approximately 75 percent of the visits were to physicians, and the other 25 percent were to hospitals or other medical facilities.

Geographic Area

There was very little variation in the average number of visits by geographic area. Among regions the average number of visits was highest in the West. Within each region there was a tendency for mothers in the metropolitan areas to average more visits than mothers in nonmetropolitan areas. This tendency was reversed in the West although the difference is not statistically significant.

Throughout the United States—in all four regions and in both metropolitan and nonmetropolitan areas—the average number of visits for medical care during the year before childbirth was significantly higher for white mothers than

for nonwhite mothers (table B). For white mothers the average number of visits was 12.2, while for nonwhite mothers the average number of visits was 7.7. The largest difference was in the West where white mothers averaged 13.4 visits and nonwhite mothers, 8.2 visits. The smallest difference was in the Northeast where the average was 11.3 for white mothers and 8.1 for nonwhite mothers. These two regions represent the extremes for white mothers; the average number of visits for nonwhite mothers was about the same in the Northeast and the West.

The deviation in the average number of visits for nonwhite mothers was in the South. Although the averages in the other three regions were relatively constant with a range of 8.1-8.3, the average number of visits for nonwhite mothers in the South was 7.2. Since 56 percent of the nonwhite births in 1963 were in the South, the national estimate was heavily weighted by births in this region. Conversely, the level of medical care—as measured by the number of visits—appears to be low in the South when color is not taken into account because the proportion of nonwhite births here was much higher than in any of the other three regions. The average number of visits for white mothers in the South was approximately the same as in the North Central Region and higher than in the Northeast.

Perhaps a word of caution is needed here. In 1963 just under 2 percent of the births were outside hospitals with either a midwife or some other nonspecified person in attendance.³ For white births this figure is 0.4 percent, while for nonwhite births it is 9.7 percent. Almost all of these births were in the South. Since the definition of medical care used in this survey includes only visits to physicians or to medical facilities such as clinics or hospitals, all visits of midwives are excluded by definition. Although there is no estimate available of the number of visits made to or by midwives, it seems certain that inclusion of these visits would increase the averages, particularly for nonwhite births in the South.

Income

Geographic region, metropolitan status, and color are general demographic characteristics which are derived from entries on the birth certificate. One of the purposes of the natality sur-

vey was to add to these demographic items certain socioeconomic items which cannot be obtained from the birth certificate. Probably the most important of these in terms of medical care is income.

The income referred to in this report is the total money income in 1962 from all sources for all members of the family who were living in the household at the time the baby was born. This is, of course, only a rough estimate of the resources available to family members since it does not take into account nonmonetary income or the number of persons in the family who are dependent on the income. However, within the broad groups shown here it is a useful measure.

In general, the number of visits per mother was higher in each succeeding income group (tables C and 2). Mothers living in families with an income under \$3,000 in 1962 averaged 9.3 visits to physicians or medical institutions during the year. Mothers in families with an income of \$10,000 or more had 13.7 visits. The increase in the average number of visits was due to the greater number of visits to physicians; the average number of visits to medical facilities was somewhat smaller and the proportion of the visits which were to medical facilities decreased from 34 percent to 17 percent.

The greatest change in the number of visits to either of the two specified sources of medical care was at the \$5,000 level. At this point the average number of visits to physicians went from 8.0 for those in the \$3,000-\$4,999 group to 10.2 for those in the \$5,000-\$6,999 group. Visits to medical facilities decreased from 3.2 to 2.6 per mother. In conjunction with this, it should be noted that almost half (49 percent) of the births for which income is known were to families with a 1962 income under \$5,000.

Although mothers of illegitimate babies were not queried, the institutions where the births took place were questioned, as were the attendants at the births. Both were asked for the names of other hospitals or physicians that the mother may have visited. Thus, it is possible to make an estimate of the number of visits which mothers of illegitimate babies had made for medical care. Internal audits (see table 17) have shown that such procedures give a reasonably accurate measure, although it is possible that some visits which only the mother knew about were not counted.

Table C. Average number of visits to physicians and medical facilities and percentage of visits to physicians during the year before childbirth, by 1962 family income: United States, 1963 births

1962 family income	Average number of visits			Percent of visits to physicians
	Total	To physicians	To medical facilities	
All incomes-----	11.5	8.7	2.9	75.1
Under \$3,000-----	9.3	6.2	3.1	66.3
\$3,000-\$4,999-----	11.2	8.0	3.2	72.3
\$5,000-\$6,999-----	12.8	10.2	2.6	79.4
\$7,000-\$9,999-----	13.5	11.1	2.3	82.8
\$10,000 and over-----	13.7	11.4	2.3	82.9
Illegitimate and unknown-----	7.1	3.5	3.6	49.0

The estimated average number of visits during the year for mothers of illegitimate babies was 7.1. This is significantly lower than the average for mothers of legitimate births, including those with a family income under \$3,000 in 1962 (table C).

There were regional variations in the pattern of visits when the family was classified according to its income in 1962. Income seemed to make the most difference in the West, where mothers in families with incomes under \$3,000 had 9.5 visits and mothers in families with incomes of \$10,000 and over had 17.3 visits. Income seemed to make the least difference in the North Central Region where the comparable averages were 10.4 and 12.6 (table 2).

The number of visits per mother for each income group was comparable for metropolitan and nonmetropolitan areas up to \$10,000. However, at that income level mothers in metropolitan areas averaged more visits than those in nonmetropolitan areas (table 3). Although the average number of visits for women in the lowest income group was also comparable, the proportion of visits to medical facilities was higher for mothers living in metropolitan areas than for mothers in nonmetropolitan areas. In metropolitan areas the mothers in families with a 1962 income under \$3,000 achieved their average of 9.3 visits by 5.6 visits to physicians and 3.7 visits to medical facilities; in nonmetropolitan areas the mothers in

low income families also averaged 9.3 visits, but 6.8 of these were to physicians and only 2.5 to medical facilities.

As has already been mentioned, the difference between white and nonwhite mothers in the average number of visits is statistically significant. Table 4 shows the distribution of mothers by their 1962 family income. It is immediately apparent that part of the difference between the two color groups is due to the difference in income, and table D shows how great that difference is. Only 12 percent of the nonwhite women who had liveborn babies in 1963 are known to be members of families with an income of \$5,000 or more as contrasted with 53 percent of the white mothers. It has already been shown that the average number of visits was higher in the upper income groups. Thus, it follows that the average number of visits would be lower for nonwhite mothers than for white mothers because of a difference in income.

Despite this, all of the difference in the number of visits is not due to the income difference. Considering only mothers in families with a 1962 income under \$3,000, for example, white mothers averaged 10.4 visits, of which 71 percent were to physicians; nonwhite mothers averaged 6.8 visits, of which 47 percent were to physicians. In the \$3,000-\$4,999 income group the averages were 11.8 for white mothers and 7.8 visits for nonwhite mothers. In the higher income groups the averages were closer, although the small

number of nonwhite mothers in the income groups above \$5,000 makes valid statistical comparisons difficult.

Education

Closely related to income as a socioeconomic factor is education. In general, people in the upper income groups remain in school longer than those in the lower income groups, and this relationship should be kept in mind when the tables showing visits by educational level are examined. This is not to say, however, that income and education show a one-to-one correlation. In the first place, the income shown here is the income of the entire family unit living together at the time of the birth regardless of how many people were in that unit or their status in the labor force. Second, the women included in this survey were predominantly young—an estimated 75 percent were under 30, and 50 percent were under 25—so that those at the higher educational levels might still be in the lower income groups if they (or their husbands) had not been in the labor force very long.

Without exception, regardless of region, metropolitan status, or color, women with some

college training averaged more visits for medical care during the year prior to childbirth than did women at any other educational level (tables 5-7). The national average for these women was 13.6 visits. Again without exception, women who had completed high school but who had no college education had the next highest average number of visits. Nationally the average for the high school graduates was 12.5 visits. Those women who had attended but not completed high school averaged 10.8 visits and, except in the North Central Region, their average number was higher than that for women who had no schooling or only an elementary education. Not all of these differences are statistically significant of course, but the pattern is consistent. Variability both for education and for income is least in the North Central Region and greatest in the West.

Although the average number of visits to medical facilities decreased as the level of income increased, there was little evidence of such a decrease by level of education. The proportion of visits to medical facilities was lower with each succeeding higher level of education only because the average number of visits to physicians was higher. In the Northeast and in the West women with some college training averaged more than twice as many visits to physicians during the year than women who had only elementary or no schooling.

The statement made about income and color also holds for education and color. Although percent distributions by educational level of white and nonwhite mothers are different and thus affect the overall rates for the two groups, the differences are there even when education is controlled. At each educational level nonwhite mothers made only 60-70 percent as many visits as white mothers. And, except for mothers with some college education, they made less than half as many visits to physicians.

Age of Mother and Live-Birth Order

Although the information on income and education was obtained only for legitimate births, such information as age of mother and live-birth order is available for all mothers since it came from the birth certificate. Table 8 is a presentation of the number of visits per 1,000 mothers for these two variables. In general, the lower the birth order the more visits the mother made for

Table D. Number and percent distribution of mothers by 1962 family income according to color: United States, 1963 births

1962 family income	Total	White	Non-White
	Number in thousands		
Total mothers--	4,097	3,439	658
	Percent distribution		
All incomes---	100.0	100.0	100.0
Under \$3,000-----	20.0	16.6	38.0
\$3,000-\$4,999-----	25.2	25.6	22.9
\$5,000-\$6,999-----	22.4	25.5	6.7
\$7,000-\$9,999-----	16.3	18.8	3.3
\$10,000 and over--	7.5	8.6	1.8
Illegitimate and unknown-----	8.6	5.1	27.2

Table E. Cumulative percent distribution of mothers¹ according to time of first visit, by geographic region and color: United States, 1963 births

Geographic region and color	3 months before conception	Trimester of pregnancy			No medical care
		First	Second	Third	
Percent distribution					
United States-----	22	58	78	98	2
White-----	23	62	81	99	1
Nonwhite-----	15	35	60	94	6
Northeast-----	20	58	79	99	1
White-----	21	61	81	99	1
Nonwhite-----	14	33	63	98	2
North Central-----	25	64	82	99	1
White-----	25	65	83	98	1
Nonwhite-----	24	46	66	98	3
South-----	20	52	73	96	4
White-----	24	60	79	97	3
Nonwhite-----	11	31	56	92	8
West-----	22	59	78	98	1
White-----	22	61	80	99	1
Nonwhite-----	23	46	70	98	3

¹Excludes mothers whose date of first visit is unknown.

medical care. Except for first births most of the difference was due to the higher rate of visits to physicians; the rate for visits to medical care facilities remained relatively constant.

When the age of the mother is considered as an independent variable, the average number of visits is relatively constant. The exception is in the age group under 20 in which mothers made an average of only 10.6 visits per mother—7.3 to physicians and 3.3 to medical facilities. It is likely that the low overall rate for this age group coupled with the high rate of visits to medical facilities is due at least in part to the high illegitimacy rate in this age group.

TIME OF FIRST VISIT FOR MEDICAL CARE

The number of visits to physicians or medical facilities is one measure of medical care which is available from the survey. A second measure of the extent of medical care is the time of the first visit during the year. In the 1963 National Natality Survey physicians and medical facility sources were asked for the date during the year before the birth of the child when they had first seen the mother; they were not asked for the date when she was first seen for prenatal care. Thus, the tables which follow do not relate

solely to visits for prenatal care or even necessarily to visits to physicians who furnished the prenatal care, although less than 3 percent of the mothers named more than one physician. They do, however, indicate that the mother had at least been in contact with the medical profession by a given point in the year, or conversely that she had not had any contact until a certain point before childbirth.

Among the 4 million women who gave birth to a liveborn child in the United States in 1963, it is estimated that 21 percent had seen a physician or had gone to a medical facility during the approximately 3 months before conception. An additional 35 percent had made one or more medical visits before the end of the first trimester of pregnancy, another 19 percent before the end of the second trimester, and about 20 percent of the mothers had their first visit for medical care during the third trimester. Approximately 2 percent had no care during the year and for 3 percent of the mothers information was not available (table 9).

Because the percentage of mothers for whom the date of the first visit was unknown varies so much by region and color, those mothers have been excluded from table E to facilitate the comparisons. All mothers are shown in the detailed tables.

Color

White mothers had care earlier in pregnancy than nonwhite mothers. Between the beginning of the year and the end of the first trimester of pregnancy, 62 percent of the white mothers and only 35 percent of the nonwhite mothers were known to have had any form of care. By the end of the second trimester 81 percent of the white mothers and 60 percent of the nonwhite mothers were known to have had one or more visits to a physician or medical facility. By the time of the birth 99 percent of the white mothers and 94 percent of the nonwhite mothers had been seen. Therefore, it is estimated that approximately 1 percent of the white mothers and 6 percent of the nonwhite mothers had not been seen either by a physician or at a medical facility before the birth of the child.

Metropolitan Status

Although the average number of visits was approximately the same for women residing in metropolitan and nonmetropolitan areas, there is evidence in table 9 that the metropolitan women received care earlier than those outside metropolitan areas. White women living in metropolitan areas were more likely to make their medical visit during the first trimester of pregnancy than were white women living outside metropolitan areas. Nonwhite women living in metropolitan areas received care earlier and more of them were known to have received care than nonwhite women residing outside metropolitan areas.

Region

Among regions there was little difference in the time at which medical care was first sought except in the South. In the other three regions 58-64 percent of the mothers had had some medical care by the end of the first trimester; in the South only 52 percent had received care by that time. By the time of the birth 99 percent of the mothers in the other three regions had received some care, while in the South an estimated 96 percent had had care by the time of the birth. A large part of this difference can be attributed to the high proportion of births in the South which were nonwhite (28 percent in the South as contrasted with 10-11 percent in the other regions). When the distributions according to time of first medical care of the white mothers are compared, there is little difference among the four regions; the differences are among the nonwhite mothers. By the end of the first trimester only 31 percent of the nonwhite mothers in the South and 34 percent in the Northeast had received care, while 45 percent in the North Central Region and 46 percent in the West had received some care.

Income

Table 10 shows the mothers in each region classified according to the 1962 income of their families. As would be expected, women in the lower income groups not only had fewer visits during the year but also tended to start their medical care later in the year before childbirth. By

the end of the first trimester of pregnancy, 43 percent of the mothers in families with a 1962 income under \$3,000 had received some medical care and 76 percent of the mothers in families with an income of \$10,000 or more in 1962 had had such care. Over four times as many women in the lowest income as women in the highest income group had received no care. Within each region the pattern was the same. Mothers in families with higher income started care earlier than mothers in families with lower income.

Education

As table 11 shows, mothers with higher levels of educational attainment also started their care earlier than mothers with less education. Since income and education are known to be closely related, the differences between women at various levels of educational attainment cannot be attributed solely to the mother's education or lack of it.

Tables 12 and 13 serve mainly to point out that for any given income or educational group the differences between metropolitan and nonmetropolitan areas are insignificant with regard to the time when the mothers first received medical care.

It has already been stated that the percent distributions according to the time during the year before childbirth when a doctor was first seen were quite different for white and nonwhite mothers. Tables 14 and 15 show white and nonwhite mothers classified by income and by education. The differences between the two groups cannot be attributed solely to differences in income or in education. Because the number of nonwhite mothers in the upper income groups is small, one must be careful in comparing these groups, but there is no doubt that white women in the lower economic groups received care earlier than nonwhite women in the same groups. For women in the lowest level—that is, women in families which had a total income under \$3,000—almost half or 48 percent of the white women had received medical care by the end of the first trimester of their pregnancies; only 29 percent of the nonwhite women had been seen by a physician or at a medical facility. In this low income

group, by the end of their pregnancies, 3 percent of the white women and 8 percent of the nonwhite women had received no care.

When the educational groups are examined the differences are even greater. Among women with no education beyond elementary school, 44 percent of the white women and only 26 percent of the nonwhite women had received medical care by the end of the first trimester of pregnancy (that is, during the first 6 months of the year preceding birth). Within the same group 3 percent of the white women and 13 percent of the nonwhite women had no medical care at all during the year before childbirth. Among women who had some college education 74 percent of the white women and 49 percent of the nonwhite women had received medical care by the end of the first trimester. In all cases these figures exclude the illegitimate births.

Age of Mother and Live-Birth Order

Table 16 shows the trimester of the first medical contact by age of the mother and live-birth order. Since this knowledge is not dependent on a response to a questionnaire, mothers of illegitimate children are included. With the exception of mothers under 20 years of age, there was not a great deal of difference by age in the percentage of women who had seen a doctor or visited a medical facility by the end of the first trimester of pregnancy. About 22-23 percent of them had seen a doctor before conception and 35-40 percent more saw a medical person during the first trimester of pregnancy; therefore by the end of the first trimester between 56 and 62 percent of them had received some care. For mothers under 20 years of age, only 43 percent had received medical care by the end of the first trimester—16 percent during the 3 months before conception and another 27 percent during the first trimester.

When the live-birth order of the child is considered without regard to the age of the mother, it appears that women having a first or second child sought care earlier than women having a third or fourth child. Women having a fifth or later

child started medical care later than any of the others and 5 percent had no medical care at all.

Among women having a first child, women aged 25-29 received earlier care than any other group—79 percent by the end of the first trimester. Among women who had already had at least one liveborn child, women aged 35 and over received care earlier than those in any other age group. Probably the changes with age and birth order also reflect changes in the family income. A woman having a second child at age 30-34 years is more likely to be in a higher income group than a woman having a second child at age 20-24.

Relationship Between Time of First Visit and Number of Visits

It would seem logical that women who had sought medical care early in the year before a child was born would make more visits than women who started their medical care in the second or third trimester of pregnancy. Table 17 shows that such women did make more visits. Among women who were known to have first received medical care either during the 3 months before conception or during the first trimester of pregnancy, approximately 81 percent made 10 or more visits to a physician or a medical facility. Among women known to have first received medical care in the second trimester, 49 percent made 10 or more visits. Among women known to have started receiving medical care in the third trimester, only 9 percent made 10 or more visits and 70 percent made fewer than 5 visits. Women who received no medical care of course made no visits. The remaining women were reported to have received some care but the date of the first visit was not reported and in almost all cases the number of visits was also not reported.

The remainder of table 17 is limited to women who were included in the survey population. That is, the mothers of illegitimate births are excluded as are the other women who were excluded from the survey for technical reasons. The percent distributions are essentially the same for the two populations even though in the second group every mother had a chance to name additional sources of care while the first group includes the mothers who were not asked any questions.

DENTAL VISITS

In addition to the physicians and hospitals, dentists were sent questionnaires to determine the number of visits the mother had made to the dentist during the 12 months before her child was born. However, since the dentist was not named on the birth certificate, there was no way to trace the dentist if the mother was excluded from the survey or did not respond to her questionnaire. The mothers who were not queried have therefore been excluded from the statistics on dental visits. Because the number of mothers reporting any dental care is so low there are no tables on the number of visits per 1,000 mothers. Tables 18-20 show only percent distributions.

The most striking feature of these tables is the very high percentage of mothers who did not see a dentist at all during the year before childbirth. Of the estimated 3.7 million women who had legitimate births in 1963 and who were included in the survey population, 73 percent reported that they had not seen a dentist during the previous 12 months. Only 26 percent reported visits and no information is available on the remaining 2 percent. Of those who did see a dentist, 28 percent made only one visit.

A higher proportion of white mothers reported dental visits than nonwhite mothers; 28 percent of the white mothers and only 8 percent of the nonwhite mothers are known to have seen a dentist. The difference in the proportion who saw a dentist is significant.

Women residing outside metropolitan areas appeared less likely to have visited a dentist than women living in metropolitan areas. Within metropolitan areas 71 percent of the mothers reported that they had not seen a dentist. Outside metropolitan areas 77 percent reported that they had not seen a dentist.

The regional information shown in table F has been abstracted from table 18 because the regional pattern for dental care is somewhat different from that for medical care. The Northeast had the highest proportion of women who reported dental visits, followed by the North Central Region. In the South the proportion of women who reported no visits was high and this is the region with the highest proportion of women with no medical care.

Table F. Percent distribution of mothers, by whether they visited a dentist during the year before childbirth, according to geographic region: United States, 1963 births

Geographic region	All mothers	No visits	One or more visits			Unknown
			Total	One	Two or more	
Percent distribution						
United States-----	100	73	26	7	18	4
Northeast-----	100	68	33	7	25	2
North Central-----	100	67	29	7	21	2
South-----	100	79	19	7	12	4
West-----	100	77	23	6	17	1

But in the West the proportion of women with no dental care reported was also high, although the proportion with no reported medical care was low. This does not appear to result from either metropolitan status or color.

As can be seen from table 18, the high proportion of women in the West with no dental care during the 12-month period was not a function of income. For each income group the proportion in the West with no dental care was higher than that for the United States as a whole.

The amount of dental care, like medical care, was greater as the size of the family's income increased. Even so, where the family's income was \$10,000 or over, 52 percent of the mothers reported that they had not seen a dentist during the 12 months before childbirth.

The ideal situation in which the mother would have made two or more dental visits was not achieved by any income group in any region. The closest was for the group of mothers who were members of families with an income in 1962 of \$10,000 or over and who were living in the Northeast. Approximately 44 percent of those women had

two or more visits to the dentist. In the North Central Region and in the South just under 40 percent of the women in this high income group made two or more dental visits.

The differences by income group between residents of metropolitan and nonmetropolitan areas were not significant (table 19).

However, the differences by income group between white and nonwhite mothers were, in general, significant. Even where the population base is so small that statistical significance cannot be demonstrated, the numbers and percentages have been shown because the differences are so great. While the proportion of white mothers with no dental care goes from a high of 86 percent for those with a family income under \$3,000 in 1962 to a low of 51 percent for those with a family income of \$10,000 or more—a difference of 35 percentage points—among nonwhite mothers the corresponding figures are 92 percent and 87 percent—a difference of 5 percentage points. White mothers in low income families had almost no dental care. Nonwhite mothers received almost no dental care regardless of income (table 20).

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Table 1. Number of mothers and number of visits to physicians and to medical facilities per 1,000 mothers during the 12 months prior to birth, by geographic region, metropolitan status, and color: United States, 1963 births

Geographic region, metropolitan status, and color	Number of mothers in thousands	Number of visits per 1,000 mothers		
		Total	To physicians	To medical facilities
<u>ALL REGIONS</u>				
<u>All areas</u>				
Total-----	4,097	11,524	8,650	2,874
White-----	3,439	12,194	9,512	2,682
Nonwhite-----	658	7,650	3,670	3,981
<u>Metropolitan areas</u>				
Total-----	2,656	11,713	8,750	2,963
White-----	2,222	12,449	9,736	2,713
Nonwhite-----	434	7,727	3,411	4,316
<u>Nonmetropolitan areas</u>				
Total-----	1,440	11,168	8,462	2,706
White-----	1,217	11,727	9,101	2,626
Nonwhite-----	223	7,479	4,247	3,232
<u>NORTHEAST</u>				
<u>All areas</u>				
Total-----	937	10,989	8,272	2,717
White-----	834	11,339	8,909	2,430
Nonwhite-----	103	8,060	2,940	5,121
<u>Metropolitan areas</u>				
Total-----	750	11,013	8,212	2,801
White-----	653	11,473	8,992	2,481
Nonwhite-----	97	7,786	2,745	5,040
<u>Nonmetropolitan areas</u>				
Total-----	187	10,896	8,514	2,382
White-----	181	10,854	8,609	2,245
Nonwhite-----	*	*	*	*
<u>NORTH CENTRAL</u>				
<u>All areas</u>				
Total-----	1,159	11,895	9,561	2,334
White-----	1,047	12,239	10,067	2,172
Nonwhite-----	112	8,343	4,334	4,010
<u>Metropolitan areas</u>				
Total-----	727	12,062	9,583	2,479
White-----	628	12,580	10,353	2,228
Nonwhite-----	99	8,350	4,067	4,283

Table 1. Number of mothers and number of visits to physicians and to medical facilities per 1,000 mothers during the 12 months prior to birth, by geographic region, metropolitan status, and color: United States, 1963 births—Con.

Geographic region, metropolitan status, and color	Number of mothers in thousands	Number of visits per 1,000 mothers		
		Total	To physicians	To medical facilities
<u>NORTH CENTRAL—Con.</u>				
<u>Nonmetropolitan areas</u>				
Total-----	432	11,621	9,526	2,096
White-----	419	11,732	9,643	2,089
Nonwhite-----	*	*	*	*
<u>SOUTH</u>				
<u>All areas</u>				
Total-----	1,316	10,893	7,644	3,249
White-----	950	12,149	9,045	3,105
Nonwhite-----	366	7,164	3,486	3,678
<u>Metropolitan areas</u>				
Total-----	671	11,347	7,956	3,391
White-----	494	12,848	9,689	3,159
Nonwhite-----	176	6,926	2,853	4,073
<u>Nonmetropolitan areas</u>				
Total-----	646	10,396	7,302	3,094
White-----	456	11,386	8,341	3,045
Nonwhite-----	190	7,428	4,189	3,238
<u>WEST</u>				
<u>All areas</u>				
Total-----	685	12,809	9,534	3,276
White-----	608	13,364	10,138	3,226
Nonwhite-----	76	8,248	4,561	3,687
<u>Metropolitan areas</u>				
Total-----	508	12,747	9,442	3,305
White-----	446	13,272	10,051	3,222
Nonwhite-----	62	8,939	5,029	3,910
<u>Nonmetropolitan areas</u>				
Total-----	177	12,990	9,798	3,191
White-----	163	13,615	10,378	3,237
Nonwhite-----	*	*	*	*

Table 2. Number of mothers and number of visits to physicians and to medical facilities per 1,000 mothers during the 12 months prior to birth, by geographic region and 1962 family income: United States, 1963 births

Geographic region and 1962 family income	Number of mothers in thousands	Number of visits per 1,000 mothers		
		Total	To physicians	To medical facilities
<u>All regions</u>				
All incomes-----	4,097	11,524	8,650	2,874
Under \$3,000-----	820	9,327	6,182	3,145
\$3,000-\$4,999-----	1,030	11,249	8,038	3,211
\$5,000-\$6,999-----	920	12,819	10,176	2,643
\$7,000-\$9,999-----	667	13,451	11,133	2,318
\$10,000 and over-----	307	13,697	11,359	2,338
Illegitimate and unknown-----	352	7,090	3,473	3,617
<u>Northeast</u>				
All incomes-----	937	10,989	8,272	2,717
Under \$3,000-----	140	8,928	5,638	3,289
\$3,000-\$4,999-----	218	10,044	6,628	3,415
\$5,000-\$6,999-----	236	11,920	9,536	2,384
\$7,000-\$9,999-----	199	12,783	10,824	1,959
\$10,000 and over-----	83	12,193	10,486	1,707
Illegitimate and unknown-----	62	7,880	3,773	4,107
<u>North Central</u>				
All incomes-----	1,159	11,895	9,561	2,334
Under \$3,000-----	187	10,379	7,968	2,411
\$3,000-\$4,999-----	256	12,038	9,659	2,380
\$5,000-\$6,999-----	306	12,475	10,310	2,166
\$7,000-\$9,999-----	208	13,189	10,853	2,336
\$10,000 and over-----	89	12,570	10,662	1,908
Illegitimate and unknown ¹ -----	114	6,637	3,036	3,601
<u>South</u>				
All incomes-----	1,316	10,893	7,644	3,249
Under \$3,000-----	363	8,817	5,408	3,409
\$3,000-\$4,999-----	412	11,071	7,588	3,484
\$5,000-\$6,999-----	208	13,484	10,455	3,029
\$7,000-\$9,999-----	130	13,434	10,890	2,543
\$10,000 and over-----	72	13,667	11,182	2,484
Illegitimate and unknown-----	131	6,503	2,850	3,653
<u>West</u>				
All incomes-----	685	12,809	9,534	3,276
Under \$3,000-----	131	9,546	6,185	3,361
\$3,000-\$4,999-----	144	12,198	8,593	3,605
\$5,000-\$6,999-----	170	13,910	10,491	3,420
\$7,000-\$9,999-----	130	14,898	12,287	2,610
\$10,000 and over-----	63	17,293	13,678	3,615
Illegitimate and unknown-----	46	7,837	4,926	2,911

¹Includes an estimated 45,000 legitimate births in Missouri.

Table 3. Number of mothers and number of visits to physicians and to medical facilities per 1,000 mothers during the 12 months prior to birth, by metropolitan status and 1962 family income: United States, 1963 births

Metropolitan status and 1962 family income	Number of mothers in thousands	Number of visits per 1,000 mothers		
		Total	To physicians	To medical facilities
<u>All areas</u>				
All incomes-----	4,097	11,524	8,650	2,874
Under \$3,000-----	820	9,327	6,182	3,145
\$3,000-\$4,999-----	1,030	11,249	8,038	3,211
\$5,000-\$6,999-----	920	12,819	10,176	2,643
\$7,000-\$9,999-----	667	13,451	11,133	2,318
\$10,000 and over-----	307	13,697	11,359	2,338
Illegitimate and unknown-----	352	7,090	3,473	3,617
<u>Metropolitan areas</u>				
All incomes-----	2,656	11,713	8,750	2,963
Under \$3,000-----	429	9,324	5,641	3,684
\$3,000-\$4,999-----	612	11,116	7,718	3,398
\$5,000-\$6,999-----	625	12,948	10,395	2,554
\$7,000-\$9,999-----	506	13,527	11,190	2,337
\$10,000 and over-----	249	14,014	11,615	2,398
Illegitimate and unknown-----	236	6,769	2,997	3,772
<u>Nonmetropolitan areas</u>				
All incomes-----	1,440	11,168	8,462	2,706
Under \$3,000-----	391	9,329	6,793	2,536
\$3,000-\$4,999-----	419	11,443	8,503	2,940
\$5,000-\$6,999-----	294	12,542	9,707	2,835
\$7,000-\$9,999-----	161	13,214	10,955	2,259
\$10,000 and over-----	59	12,334	10,254	2,081
Illegitimate and unknown-----	117	7,904	4,684	3,220

Table 4. Number of mothers and number of visits to physicians and to medical facilities per 1,000 mothers during the 12 months prior to birth, by color and 1962 family income: United States, 1963 births

Color and 1962 family income	Number of mothers in thousands	Number of visits per 1,000 mothers		
		Total	To physicians	To medical facilities
<u>Total</u>				
All incomes-----	4,097	11,524	8,650	2,874
Under \$3,000-----	820	9,327	6,182	3,145
\$3,000-\$4,999-----	1,030	11,249	8,038	3,211
\$5,000-\$6,999-----	920	12,819	10,176	2,643
\$7,000-\$9,999-----	667	13,451	11,133	2,318
\$10,000 and over-----	307	13,697	11,359	2,338
Illegitimate and unknown-----	352	7,090	3,473	3,617
<u>White</u>				
All incomes-----	3,439	12,194	9,512	2,682
Under \$3,000-----	570	10,362	7,392	2,969
\$3,000-\$4,999-----	879	11,809	8,790	3,019
\$5,000-\$6,999-----	876	12,919	10,334	2,586
\$7,000-\$9,999-----	645	13,407	11,151	2,256
\$10,000 and over-----	295	13,825	11,498	2,328
Illegitimate and unknown-----	174	7,582	4,812	2,770
<u>Nonwhite</u>				
All incomes-----	658	7,650	3,670	3,981
Under \$3,000-----	250	6,802	3,229	3,573
\$3,000-\$4,999-----	151	7,840	3,456	4,384
\$5,000-\$6,999-----	44	10,742	6,902	3,840
\$7,000-\$9,999-----	*	*	*	*
\$10,000 and over-----	*	*	*	*
Illegitimate and unknown-----	179	6,669	2,329	4,340

Table 5. Number of mothers and number of visits to physicians and to medical facilities per 1,000 mothers during the 12 months prior to birth, by geographic region and education of mother: United States, 1963 births

Geographic region and education of mother	Number of mothers in thousands	Number of visits per 1,000 mothers		
		Total	To physicians	To medical facilities
<u>All regions</u>				
All educational levels-----	4,097	11,524	8,650	2,874
None or elementary education-----	488	8,894	5,996	2,898
High school nongraduate-----	928	10,777	7,911	2,866
High school graduate-----	1,598	12,464	9,704	2,760
College-----	730	13,615	10,757	2,859
Illegitimate and unknown-----	352	7,090	3,473	3,617
<u>Northeast</u>				
All educational levels-----	937	10,989	8,272	2,717
None or elementary education-----	85	7,783	4,960	2,823
High school nongraduate-----	198	9,877	6,655	3,222
High school graduate-----	423	11,673	9,164	2,510
College-----	168	13,281	11,178	2,103
Illegitimate and unknown-----	62	7,880	3,773	4,107
<u>North Central</u>				
All educational levels-----	1,159	11,895	9,561	2,334
None or elementary education-----	85	11,195	8,533	2,662
High school nongraduate-----	258	10,897	8,731	2,166
High school graduate-----	493	12,552	10,370	2,183
College-----	210	13,099	10,638	2,462
Illegitimate and unknown ¹ -----	114	6,637	3,036	3,601
<u>South</u>				
All educational levels-----	1,316	10,893	7,644	3,249
None or elementary education-----	243	8,550	5,668	2,882
High school nongraduate-----	327	10,419	7,325	3,094
High school graduate-----	418	12,238	8,868	3,371
College-----	197	13,674	10,224	3,449
Illegitimate and unknown-----	131	6,503	2,850	3,653
<u>West</u>				
All educational levels-----	685	12,809	9,534	3,276
None or elementary education-----	76	8,559	5,256	3,303
High school nongraduate-----	145	12,593	9,470	3,124
High school graduate-----	263	13,918	10,632	3,285
College-----	155	14,622	11,125	3,497
Illegitimate and unknown-----	46	7,837	4,926	2,911

¹Includes an estimated 45,000 legitimate births in Missouri.

Table 6. Number of mothers and number of visits to physicians and to medical facilities per 1,000 mothers during the 12 months prior to birth, by metropolitan status and education of mother: United States, 1963 births

Metropolitan status and education of mother	Number of mothers in thousands	Number of visits per 1,000 mothers		
		Total	To physicians	To medical facilities
<u>All areas</u>				
All educational levels-----	4,097	11,524	8,650	2,874
None or elementary education-----	488	8,894	5,996	2,898
High school nongraduate-----	928	10,777	7,911	2,866
High school graduate-----	1,598	12,464	9,704	2,760
College-----	730	13,615	10,757	2,859
Illegitimate and unknown-----	352	7,090	3,473	3,617
<u>Metropolitan areas</u>				
All educational levels-----	2,656	11,713	8,750	2,963
None or elementary education-----	260	9,150	5,805	3,346
High school nongraduate-----	591	10,993	7,916	3,078
High school graduate-----	1,064	12,575	9,841	2,734
College-----	505	13,795	10,967	2,828
Illegitimate and unknown-----	236	6,769	2,997	3,772
<u>Nonmetropolitan areas</u>				
All educational levels-----	1,440	11,168	8,462	2,706
None or elementary education-----	229	8,591	6,221	2,370
High school nongraduate-----	337	10,389	7,904	2,486
High school graduate-----	533	12,245	9,433	2,812
College-----	225	13,209	10,282	2,927
Illegitimate and unknown-----	117	7,904	4,684	3,220

Table 7. Number of mothers and number of visits to physicians and to medical facilities per 1,000 mothers during the 12 months prior to birth, by color and education of mother: United States, 1963 births

Color and education of mother	Number of mothers in thousands	Number of visits per 1,000 mothers		
		Total	To physicians	To medical facilities
<u>Total</u>				
All educational levels-----	4,097	11,524	8,650	2,874
None or elementary education-----	488	8,894	5,996	2,898
High school nongraduate-----	928	10,777	7,911	2,866
High school graduate-----	1,598	12,464	9,704	2,760
College-----	730	13,615	10,757	2,859
Illegitimate and unknown-----	352	7,090	3,473	3,617
<u>White</u>				
All educational levels-----	3,439	12,194	9,512	2,682
None or elementary education-----	375	9,554	6,747	2,807
High school nongraduate-----	767	11,483	8,791	2,693
High school graduate-----	1,451	12,794	10,205	2,589
College-----	673	13,945	11,155	2,791
Illegitimate and unknown-----	174	7,582	4,812	2,770
<u>Nonwhite</u>				
All educational levels-----	658	7,650	3,670	3,981
None or elementary education-----	114	6,371	3,122	3,249
High school nongraduate-----	161	7,239	3,506	3,733
High school graduate-----	147	9,127	4,628	4,499
College-----	58	9,590	5,903	3,687
Illegitimate and unknown-----	179	6,669	2,329	4,340

Table 8. Number of mothers and number of visits to physicians and to medical facilities per 1,000 mothers during the 12 months prior to birth, by age of mother and live-birth order; United States, 1963 births

Age of mother and live-birth order	Number of mothers in thousands	Number of visits per 1,000 mothers		
		Total	To physicians	To medical facilities
<u>All ages</u>				
All orders-----	4,097	11,524	8,650	2,874
First-----	1,145	12,839	9,596	3,243
Second-----	963	11,834	9,106	2,728
Third-----	745	11,571	8,822	2,749
Fourth-----	516	10,600	7,981	2,618
Fifth or higher-----	727	9,559	6,765	2,794
<u>Under 20 years</u>				
All orders-----	594	10,587	7,259	3,328
First-----	419	11,126	7,841	3,284
Second-----	131	9,883	6,316	3,567
Third or higher-----	44	6,945	3,963	2,982
<u>20-24 years</u>				
All orders-----	1,454	11,719	8,674	3,045
First-----	521	13,598	10,065	3,533
Second-----	482	11,594	9,055	2,539
Third-----	267	10,408	7,348	3,060
Fourth-----	131	8,802	6,073	2,729
Fifth or higher-----	53	7,515	3,919	3,596
<u>25-29 years</u>				
All orders-----	1,024	11,878	9,209	2,669
First-----	129	14,471	12,066	2,405
Second-----	247	12,829	10,127	2,702
Third-----	239	12,267	9,698	2,568
Fourth-----	200	10,811	8,220	2,591
Fifth or higher-----	210	9,594	6,591	3,003
<u>30-34 years</u>				
All orders-----	610	11,173	8,787	2,386
First-----	56	14,917	12,300	2,617
Second-----	71	12,756	9,603	3,153
Third-----	130	11,460	9,510	1,950
Fourth-----	117	11,337	8,915	2,422
Fifth or higher-----	236	9,422	7,098	2,324
<u>35 years and over</u>				
All orders-----	415	11,790	8,922	2,868
First-----	20	11,757	9,578	2,180
Second-----	31	13,429	11,968	1,462
Third-----	73	15,488	11,944	3,544
Fourth-----	64	12,169	9,354	2,814
Fifth or higher-----	226	10,145	7,232	2,913

Table 9. Number and percent distribution of mothers, by time of first medical visit during the 12 months prior to birth according to geographic region, metropolitan status, and color: United States, 1963 births

Geographic region, metropolitan status, and color	Number of mothers in thousands	Time of first medical visit					
		3 months before conception	Trimester of pregnancy			No medical care	Unknown
			First	Second	Third		
<u>ALL REGIONS</u>							
<u>All areas</u>							
Total-----	4,097	21.3	35.1	19.1	19.6	2.0	3.0
White-----	3,439	22.8	38.1	18.4	17.3	1.3	2.0
Nonwhite-----	658	13.7	19.0	23.0	31.3	5.2	7.9
<u>Metropolitan areas</u>							
Total-----	2,655	21.4	36.7	18.5	19.4	1.5	2.6
White-----	2,221	22.7	40.0	17.5	16.6	1.2	1.9
Nonwhite-----	434	14.5	19.3	23.1	34.0	2.9	6.2
<u>Nonmetropolitan areas</u>							
Total-----	1,442	31.2	32.1	20.3	19.8	2.9	3.7
White-----	1,218	22.9	34.7	19.9	18.7	1.6	2.3
Nonwhite-----	223	12.1	18.2	22.6	26.1	9.7	11.3
<u>NORTHEAST</u>							
<u>All areas</u>							
Total-----	937	20.2	37.6	20.4	19.9	1.0	0.8
White-----	834	21.0	39.9	19.4	18.2	0.9	0.6
Nonwhite-----	103	13.9	18.9	28.8	33.9	2.0	2.6
<u>Metropolitan areas</u>							
Total-----	750	20.4	37.6	20.3	19.6	1.1	0.9
White-----	653	21.4	40.7	18.9	17.4	1.0	0.6
Nonwhite-----	97	13.8	17.4	29.5	34.4	2.1	2.8
<u>Nonmetropolitan areas</u>							
Total-----	187	19.5	37.5	20.9	21.0	0.5	0.6
White-----	181	19.7	37.4	21.1	20.8	0.5	0.6
Nonwhite-----	*	*	*	*	*	*	*
<u>NORTH CENTRAL</u>							
<u>All areas</u>							
Total-----	1,159	23.9	36.4	17.1	15.9	0.8	5.8
White-----	1,047	24.2	38.3	17.1	14.7	0.7	5.0
Nonwhite-----	112	20.7	18.7	17.3	27.5	2.4	13.5
<u>Metropolitan areas</u>							
Total-----	727	22.7	38.3	15.0	16.4	0.9	6.7
White-----	628	23.0	41.4	15.2	14.3	0.6	5.3
Nonwhite-----	99	20.4	18.5	13.9	29.3	2.7	15.3

Table 9. Number and percent distribution of mothers, by time of first medical visit during the 12 months prior to birth according to geographic region, metropolitan status, and color: United States, 1963 births—Con.

Geographic region, metropolitan status, and color	Number of mothers in thousands	Time of first medical visit					No medical care	Un-known
		3 months before conception	Trimester of pregnancy					
			First	Second	Third			
<u>NORTH CENTRAL—Con.</u>								
<u>Nonmetropolitan areas</u>								
Total-----	432	25.9	33.1	20.6	15.3	0.7	4.4	
White-----	419	26.0	33.5	19.9	15.3	0.7	4.6	
Nonwhite-----	*	*	*	*	*	*	*	
<u>SOUTH</u>								
<u>All areas</u>								
Total-----	1,316	19.6	31.1	19.9	22.4	3.9	3.1	
White-----	950	23.4	36.1	18.8	18.4	2.5	0.9	
Nonwhite-----	366	9.8	18.3	22.9	32.7	7.5	8.8	
<u>Metropolitan areas</u>								
Total-----	671	21.8	32.1	20.0	22.1	2.6	1.3	
White-----	494	26.4	36.9	18.6	15.6	2.2	0.2	
Nonwhite-----	176	8.9	18.4	23.8	40.4	3.9	4.5	
<u>Nonmetropolitan areas</u>								
Total-----	646	17.3	30.1	19.9	22.7	5.2	4.9	
White-----	456	20.1	35.1	19.0	21.5	2.9	1.6	
Nonwhite-----	190	10.5	18.2	22.1	25.5	10.9	12.8	
<u>WEST</u>								
<u>All areas</u>								
Total-----	685	21.8	36.9	19.2	19.9	1.4	0.7	
White-----	608	21.8	38.7	18.7	19.0	1.3	0.5	
Nonwhite-----	76	21.9	22.6	23.5	26.8	2.5	2.7	
<u>Metropolitan areas</u>								
Total-----	508	20.4	38.8	18.7	20.1	1.2	0.8	
White-----	446	20.2	40.6	17.7	19.8	1.1	0.7	
Nonwhite-----	62	22.0	26.3	25.9	22.3	1.7	1.8	
<u>Nonmetropolitan areas</u>								
Total-----	177	25.7	31.4	20.8	19.4	2.2	0.5	
White-----	163	26.1	33.6	21.4	17.1	1.8	-	
Nonwhite-----	*	*	*	*	*	*	*	

Table 10. Number and percent distribution of mothers, by time of first medical visit during the 12 months prior to birth according to geographic region and 1962 family income: United States, 1963 births

Geographic region and 1962 family income	Number of mothers in thou- sands	Time of first medical visit.					
		3 months before con- ception	Trimester of pregnancy			No medical care	Un- known
			First	Second	Third		
<u>All regions</u>		Percent distribution					
All incomes-----	4,097	21.3	35.1	19.1	19.6	2.0	3.0
Under \$3,000-----	820	15.9	26.6	25.9	26.2	4.4	1.0
\$3,000-\$4,999-----	1,030	20.8	33.8	22.6	20.2	2.1	0.6
\$5,000-\$6,999-----	920	24.0	42.9	16.4	15.2	1.3	0.2
\$7,000-\$9,999-----	667	27.7	44.9	13.6	12.3	1.1	0.5
\$10,000 and over-----	307	28.3	48.0	11.5	10.9	1.0	0.3
Illegitimate and unknown-----	352	10.7	8.1	17.4	35.3	-	28.6
<u>Northeast</u>							
All incomes-----	937	20.2	37.6	20.4	19.9	1.0	0.8
Under \$3,000-----	140	13.5	29.5	25.7	29.8	1.5	-
\$3,000-\$4,999-----	218	17.9	32.7	25.2	22.4	0.9	1.0
\$5,000-\$6,999-----	236	22.1	45.9	16.7	14.3	0.9	-
\$7,000-\$9,999-----	199	24.3	43.5	15.9	13.7	1.6	1.0
\$10,000 and over-----	83	27.3	47.2	15.9	9.6	-	-
Illegitimate and unknown-----	62	14.1	9.8	26.2	43.9	-	5.9
<u>North Central</u>							
All incomes-----	1,159	23.9	36.4	17.1	15.9	0.8	5.8
Under \$3,000-----	187	22.7	27.6	23.9	22.9	2.5	0.5
\$3,000-\$4,999-----	256	27.7	33.6	21.2	15.2	1.6	0.7
\$5,000-\$6,999-----	306	24.5	45.7	15.0	14.2	-	0.7
\$7,000-\$9,999-----	208	27.8	44.0	16.0	11.7	0.5	-
\$10,000 and over-----	89	25.3	53.9	9.2	10.4	-	1.1
Illegitimate and unknown ¹ -----	114	7.3	4.7	10.5	22.9	-	54.6
<u>South</u>							
All incomes-----	1,316	19.6	31.1	19.9	22.4	3.9	3.1
Under \$3,000-----	363	11.9	26.5	25.9	25.7	8.2	1.8
\$3,000-\$4,999-----	412	19.5	33.9	21.5	22.3	2.8	-
\$5,000-\$6,999-----	208	26.7	38.8	18.2	13.8	2.4	-
\$7,000-\$9,999-----	130	33.6	42.2	9.7	12.3	1.5	0.8
\$10,000 and over-----	72	33.7	37.2	9.4	15.5	4.2	-
Illegitimate and unknown-----	131	8.6	8.4	17.1	40.6	-	25.3
<u>West</u>							
All incomes-----	685	21.8	36.9	19.2	19.9	1.4	0.7
Under \$3,000-----	131	19.7	22.4	28.9	28.3	-	0.7
\$3,000-\$4,999-----	144	16.6	35.3	24.6	19.5	2.6	1.4
\$5,000-\$6,999-----	170	22.2	38.8	16.1	19.9	2.9	-
\$7,000-\$9,999-----	130	26.8	51.3	10.1	11.0	0.8	-
\$10,000 and over-----	63	27.8	53.4	11.1	7.8	-	-
Illegitimate and unknown-----	46	20.0	13.1	23.5	38.8	-	4.5

¹Includes an estimated 45,000 legitimate births in Missouri.

Table 11. Number and percent distribution of mothers, by time of first medical visit during the 12 months prior to birth according to geographic region and education of mother: United States, 1963 births

Geographic region and education of mother	Number of mothers in thousands	Time of first medical visit					No medical care	Unknown
		3 months before conception	Trimester of pregnancy					
			First	Second	Third			
<u>All regions</u>		Percent distribution						
All educational levels-----	4,097	21.3	35.1	19.1	19.6	2.0	3.0	
None or elementary education-----	488	15.0	24.6	24.6	28.9	5.4	1.6	
High school nongraduate-----	928	20.9	31.9	20.8	23.0	2.9	0.5	
High school graduate-----	1,598	22.6	42.3	18.5	15.4	0.8	0.4	
College-----	730	28.6	43.4	15.5	10.5	1.9	0.2	
Illegitimate and unknown-----	352	10.7	8.1	17.4	35.3	-	28.6	
<u>Northeast</u>								
All educational levels-----	937	20.2	37.6	20.4	19.9	1.0	0.8	
None or elementary education-----	85	14.9	24.6	27.4	31.9	-	1.2	
High school nongraduate-----	198	17.2	33.4	21.9	25.3	2.2	-	
High school graduate-----	423	21.1	44.1	17.6	15.8	0.7	0.7	
College-----	168	26.5	43.2	20.0	9.1	1.2	-	
Illegitimate and unknown-----	62	14.1	9.8	26.2	43.9	-	5.9	
<u>North Central</u>								
All educational levels-----	1,159	23.9	36.4	17.1	15.9	0.8	5.8	
None or elementary education-----	85	21.2	31.2	21.7	23.5	2.4	-	
High school nongraduate-----	258	24.2	34.0	16.6	22.6	1.9	0.7	
High school graduate-----	493	25.3	42.4	20.0	11.8	0.2	0.4	
College-----	210	30.2	44.5	12.8	10.7	1.0	0.9	
Illegitimate and unknown ¹ -----	114	7.3	4.7	10.5	22.9	-	54.6	
<u>South</u>								
All educational levels-----	1,316	19.6	31.1	19.9	22.4	3.9	3.1	
None or elementary education-----	243	13.0	22.3	23.6	29.2	9.6	2.3	
High school nongraduate-----	327	19.1	28.8	25.1	21.8	4.6	0.6	
High school graduate-----	418	21.1	40.6	17.6	19.0	1.7	-	
College-----	197	32.7	40.8	13.6	9.9	3.0	-	
Illegitimate and unknown-----	131	8.6	8.4	17.1	40.6	-	25.3	
<u>West</u>								
All educational levels-----	685	21.8	36.9	19.2	19.9	1.4	0.7	
None or elementary education-----	76	14.5	24.6	27.6	30.8	1.3	1.3	
High school nongraduate-----	145	23.9	33.0	17.1	23.2	2.0	0.7	
High school graduate-----	263	22.1	41.9	18.9	16.0	0.8	0.4	
College-----	155	23.4	45.3	16.4	12.4	2.5	-	
Illegitimate and unknown-----	46	20.0	13.1	23.5	38.8	-	4.5	

¹Includes an estimated 45,000 legitimate births in Missouri.

Table 12. Number and percent distribution of mothers, by time of first medical visit during the 12 months prior to birth according to metropolitan status and 1962 family income: United States, 1963 births

Metropolitan status and 1962 family income	Number of mothers in thou- sands	Time of first medical visit					
		3 months before con- ception	Trimester of pregnancy			No medical care	Un- known
			First	Second	Third		
<u>All areas</u>		Percent distribution					
All incomes-----	4,097	21.3	35.1	19.1	19.6	2.0	3.0
Under \$3,000-----	820	15.9	26.6	25.9	26.2	4.4	1.0
\$3,000-\$4,999-----	1,030	20.8	33.8	22.6	20.2	2.1	0.6
\$5,000-\$6,999-----	920	24.0	42.9	16.4	15.2	1.3	0.2
\$7,000-\$9,999-----	667	27.7	44.9	13.6	12.3	1.1	0.5
\$10,000 and over-----	307	28.3	48.0	11.5	10.9	1.0	0.3
Illegitimate and unknown-----	352	10.7	8.1	17.4	35.3	-	28.6
<u>Metropolitan areas</u>							
All incomes-----	2,656	21.4	36.7	18.5	19.4	1.5	2.6
Under \$3,000-----	429	15.1	27.2	26.0	27.8	3.0	1.0
\$3,000-\$4,999-----	612	20.5	33.2	22.5	21.0	2.0	0.8
\$5,000-\$6,999-----	625	23.2	44.0	16.5	15.2	1.0	0.2
\$7,000-\$9,999-----	506	27.3	45.6	13.3	12.1	1.2	0.4
\$10,000 and over-----	249	27.2	51.5	11.8	8.7	0.5	0.4
Illegitimate and unknown-----	236	11.3	8.7	17.7	38.5	-	23.8
<u>Nonmetropolitan areas</u>							
All incomes-----	1,440	21.2	32.1	20.4	19.8	2.9	3.6
Under \$3,000-----	391	16.7	26.0	25.9	24.4	6.0	1.0
\$3,000-\$4,999-----	419	21.1	34.6	22.8	19.0	2.1	0.2
\$5,000-\$6,999-----	294	25.6	40.7	16.1	15.2	2.1	0.3
\$7,000-\$9,999-----	161	28.7	42.7	14.5	12.8	0.6	0.6
\$10,000 and over-----	59	32.9	33.4	10.2	20.2	3.2	-
Illegitimate and unknown-----	117	9.4	6.8	16.8	28.6	-	38.3

Table 13. Number and percent distribution of mothers, by time of first medical visit during the 12 months prior to birth according to metropolitan status and education of mother: United States, 1963 births

Metropolitan status and education of mother	Number of mothers in thousands	Time of first medical visit					No medical care	Unknown
		3 months before conception	Trimester of pregnancy					
			First	Second	Third			
<u>All areas</u>		Percent distribution						
All educational levels-----	4,097	21.3	35.1	19.1	19.6	2.0	3.0	
None or elementary education-----	488	15.0	24.6	24.6	28.9	5.4	1.6	
High school nongraduate-----	928	20.9	31.9	20.8	23.0	2.9	0.5	
High school graduate-----	1,598	22.6	42.3	18.5	15.4	0.8	0.4	
College-----	730	28.6	43.4	15.5	10.5	1.9	0.2	
Illegitimate and unknown-----	352	10.7	8.1	17.4	35.3	-	28.6	
<u>Metropolitan areas</u>								
All educational levels-----	2,655	21.4	36.7	18.5	19.4	1.5	2.6	
None or elementary education-----	260	15.5	24.9	25.7	29.0	3.8	1.1	
High school nongraduate-----	591	20.1	34.1	21.1	22.2	1.9	0.6	
High school graduate-----	1,064	22.5	43.3	17.5	15.2	0.9	0.6	
College-----	505	28.3	44.8	13.9	11.3	1.6	0.2	
Illegitimate and unknown-----	234	11.4	8.7	17.8	38.7	-	23.4	
<u>Nonmetropolitan areas</u>								
All educational levels-----	1,442	21.2	32.1	20.3	19.8	2.9	3.7	
None or elementary education-----	229	14.4	24.3	23.3	28.8	7.1	2.1	
High school nongraduate-----	337	22.2	28.0	20.3	24.4	4.8	0.3	
High school graduate-----	533	22.7	40.3	20.5	15.9	0.6	-	
College-----	225	29.2	40.2	19.0	8.6	2.6	0.5	
Illegitimate and unknown-----	118	9.3	6.8	16.7	28.4	-	38.9	

Table 14. Number and percent distribution of mothers, by time of first medical visit during the 12 months prior to birth according to color and 1962 family income; United States, 1963 births

Color and 1962 family income	Number of mothers in thousands	Time of first medical visit					
		3 months before conception	Trimester of pregnancy			No medical care	Unknown
			First	Second	Third		
<u>Total</u>		Percent distribution					
All incomes-----	4,097	21.3	35.1	19.1	19.6	2.0	3.0
Under \$3,000-----	820	15.9	26.6	25.9	26.2	4.4	1.0
\$3,000-\$4,999-----	1,030	20.8	33.8	22.6	20.2	2.1	0.6
\$5,000-\$6,999-----	920	24.0	42.9	16.4	15.2	1.3	0.2
\$7,000-\$9,999-----	667	27.7	44.9	13.6	12.3	1.1	0.5
\$10,000 and over-----	307	28.3	48.0	11.5	10.9	1.0	0.3
Illegitimate and unknown-----	352	10.7	8.1	17.4	35.3	-	28.6
<u>White</u>							
All incomes-----	3,439	22.8	38.1	18.4	17.3	1.3	2.0
Under \$3,000-----	570	18.0	30.2	25.5	23.0	2.9	0.3
\$3,000-\$4,999-----	879	21.5	36.0	22.5	18.1	1.5	0.5
\$5,000-\$6,999-----	876	24.4	43.2	16.4	14.6	1.1	0.2
\$7,000-\$9,999-----	645	27.2	45.1	13.7	12.7	0.8	0.5
\$10,000 and over-----	295	29.2	48.2	11.3	10.6	0.3	0.3
Illegitimate and unknown-----	174	9.7	6.5	13.5	37.4	-	32.9
<u>Nonwhite</u>							
All incomes-----	658	13.7	19.0	23.0	31.3	5.2	7.9
Under \$3,000-----	250	10.9	18.5	26.9	33.3	7.9	2.6
\$3,000-\$4,999-----	151	16.6	21.0	23.1	32.4	5.5	1.3
\$5,000-\$6,999-----	44	16.2	36.2	14.7	27.8	5.1	-
\$7,000-\$9,999-----	*	*	*	*	*	*	-
\$10,000 and over-----	*	*	*	*	*	*	-
Illegitimate and unknown-----	179	11.6	9.6	21.2	33.2	-	24.4

Table 15. Number and percent distribution of mothers, by time of first medical visit during the 12 months prior to birth according to color and education of mother: United States, 1963 births

Color and education of mother	Number of mothers in thousands	Time of first medical visit					
		3 months before conception	Trimester of pregnancy			No medical care	Unknown
			First	Second	Third		
<u>Total</u>		Percent distribution					
All educational levels-----	4,097	21.3	35.1	19.1	19.6	2.0	3.0
None or elementary education-----	488	15.0	24.6	24.6	28.9	5.4	1.6
High school nongraduate-----	928	20.9	31.9	20.8	23.0	2.9	0.5
High school graduate-----	1,598	22.6	42.3	18.5	15.4	0.8	0.4
College-----	730	28.6	43.4	15.5	10.5	1.9	0.2
Illegitimate and unknown-----	352	10.7	8.1	17.4	35.3	-	28.6
<u>White</u>							
All educational levels-----	3,439	22.8	38.1	18.4	17.3	1.3	2.0
None or elementary education-----	375	16.6	27.2	24.9	27.7	3.1	0.5
High school nongraduate-----	767	21.9	34.3	20.1	21.2	2.1	0.4
High school graduate-----	1,451	23.5	43.7	17.9	14.0	0.6	0.4
College-----	673	29.1	44.7	15.1	9.3	1.5	0.3
Illegitimate and unknown-----	174	9.7	6.5	13.5	37.4	-	32.9
<u>Nonwhite</u>							
All educational levels-----	658	13.7	19.0	23.0	31.3	5.2	7.9
None or elementary education-----	114	9.9	15.9	23.4	33.0	12.8	5.0
High school nongraduate-----	161	15.9	20.5	24.0	31.8	6.8	1.1
High school graduate-----	147	13.4	27.8	24.9	29.9	3.2	0.7
College-----	58	22.2	27.1	19.5	24.5	6.8	-
Illegitimate and unknown-----	179	11.6	9.6	21.2	33.2	-	24.4

Table 16. Number and percent distribution of mothers, by time of first medical visit during the 12 months prior to birth according to age of mother and live-birth order: United States, 1963 births

Age of mother and live-birth order	Number of mothers in thousands	Time of first medical visit					
		3 months before conception	Trimester of pregnancy			No medical care	Un-known
			First	Second	Third		
<u>All ages</u>		Percent distribution					
All orders-----	4,097	21.3	35.1	19.1	19.6	2.0	3.0
First-----	1,145	19.3	40.1	19.1	17.2	1.1	3.3
Second-----	963	24.1	37.4	17.8	16.3	1.8	2.7
Third-----	745	22.3	35.7	17.9	21.0	1.2	2.0
Fourth-----	516	19.2	35.2	21.7	20.1	1.6	2.3
Fifth or higher-----	727	21.4	23.4	20.5	25.8	4.9	4.3
<u>Under 20 years</u>							
All orders-----	594	16.4	26.7	25.8	24.1	2.3	4.7
First-----	419	14.2	30.7	25.9	23.5	1.7	3.9
Second-----	131	24.6	17.8	26.9	23.7	3.1	3.9
Third or higher-----	44	12.7	14.7	21.4	30.4	6.1	14.8
<u>20-24 years</u>							
All orders-----	1,454	21.6	34.7	20.0	18.5	1.8	3.3
First-----	521	20.8	44.0	17.7	13.6	1.0	2.9
Second-----	482	25.5	33.6	19.0	16.7	1.9	3.2
Third-----	267	20.1	29.2	20.2	26.6	1.5	2.3
Fourth-----	131	13.7	23.2	26.9	27.8	3.3	5.1
Fifth or higher-----	53	21.9	9.8	32.3	20.7	6.5	8.7
<u>25-29 years</u>							
All orders-----	1,024	23.1	39.1	16.8	17.4	1.7	1.8
First-----	129	26.2	53.1	8.6	9.8	-	2.4
Second-----	247	22.1	47.6	15.2	12.6	1.5	1.1
Third-----	239	24.1	41.6	16.7	15.5	0.8	1.2
Fourth-----	200	21.4	38.1	19.2	19.8	1.0	0.5
Fifth or higher-----	210	23.1	18.7	21.6	27.5	4.8	4.3
<u>30-34 years</u>							
All orders-----	610	21.5	35.6	16.0	22.6	2.2	2.2
First-----	56	24.0	44.2	10.3	21.5	-	-
Second-----	71	20.5	55.7	7.8	12.7	-	3.3
Third-----	130	24.7	37.0	16.4	21.1	0.8	-
Fourth-----	117	18.2	41.2	19.8	18.1	1.8	0.9
Fifth or higher-----	236	21.1	24.0	17.7	28.8	4.2	4.1
<u>35 years and over</u>							
All orders-----	415	22.5	37.4	17.0	17.8	2.1	3.3
First-----	20	26.1	37.0	5.2	16.1	-	15.7
Second-----	31	24.1	55.1	3.4	17.3	-	-
Third-----	73	23.5	48.7	16.1	11.7	-	-
Fourth-----	64	26.5	40.1	21.7	8.4	-	3.3
Fifth or higher-----	226	20.5	30.5	18.8	22.7	3.9	3.6

Table 17. Number and percent distribution of mothers and of mothers in survey population, by number of visits according to time they first received medical care during the 12 months prior to birth: United States, 1963 births

Number of visits	All mothers in thousands	Time of first medical visit				
		3 months before conception or first trimester	Second trimester	Third trimester	No medical care	Unknown
		Number in thousands				
All mothers-----	4,097	2,310	783	802	80	121
		Percent distribution				
Total visits-----	100.0	100.0	100.0	100.0	100.0	100.0
No visits-----	2.0	-	-	-	100.0	-
1-4 visits-----	19.3	5.4	13.0	69.8	-	2.4
5-9 visits-----	18.5	12.8	37.9	20.3	-	0.8
10-14 visits-----	28.7	36.8	34.6	6.7	-	-
15 visits or more-----	28.3	44.4	14.2	2.4	-	1.7
Unknown-----	3.4	0.6	0.2	0.8	-	95.1
		Number in thousands				
Mothers in survey population-----	3,744	2,244	722	678	80	20
		Percent distribution				
Total visits-----	100.0	100.0	100.0	100.0	100.0	100.0
No visits-----	2.1	-	-	-	100.0	-
1-4 visits-----	17.9	5.0	12.7	69.2	-	2.9
5-9 visits-----	18.4	12.7	37.5	21.0	-	1.5
10-14 visits-----	29.8	36.9	35.3	6.8	-	-
15 visits or more-----	29.7	44.8	14.3	2.4	-	3.0
Unknown-----	2.2	0.6	0.2	0.6	-	92.6

Table 18. Number and percent distribution of mothers in survey population, by whether they had seen a dentist during the 12 months prior to birth according to geographic region and 1962 family income: United States, 1963 births

Geographic region and 1962 family income	Number of mothers in thousands	Percent distribution of mothers			
		No visits to dentist	One visit	Two visits or more	Unknown
<u>All regions</u>					
All incomes-----	3,744	72.8	7.2	18.4	1.6
Under \$3,000-----	820	88.0	5.7	5.8	0.6
\$3,000-\$4,999-----	1,030	79.5	6.3	12.5	1.7
\$5,000-\$6,999-----	920	68.1	8.0	21.9	2.0
\$7,000-\$9,999-----	667	59.8	9.7	29.3	1.2
\$10,000 and over-----	307	52.2	7.1	37.7	3.1
<u>Northeast</u>					
All incomes-----	875	66.0	7.5	25.0	1.5
Under \$3,000-----	140	84.8	7.8	7.4	-
\$3,000-\$4,999-----	218	74.2	7.0	16.5	2.2
\$5,000-\$6,999-----	236	62.1	8.0	28.6	1.3
\$7,000-\$9,999-----	199	56.3	8.1	34.7	0.9
\$10,000 and over-----	83	47.3	5.3	43.6	3.8
<u>North Central</u>					
All incomes-----	1,046	69.3	7.4	21.2	2.0
Under \$3,000-----	187	82.9	8.1	7.9	1.1
\$3,000-\$4,999-----	256	76.0	5.3	16.9	1.9
\$5,000-\$6,999-----	306	69.1	7.0	22.3	1.7
\$7,000-\$9,999-----	208	57.9	10.4	29.3	2.4
\$10,000 and over-----	89	49.3	6.8	39.3	4.6
<u>South</u>					
All incomes-----	1,185	79.1	7.5	12.0	1.5
Under \$3,000-----	363	90.8	5.0	3.4	0.8
\$3,000-\$4,999-----	412	83.6	7.0	7.7	1.7
\$5,000-\$6,999-----	208	70.9	12.6	13.5	3.0
\$7,000-\$9,999-----	130	58.7	8.1	32.3	0.8
\$10,000 and over-----	72	54.8	6.9	38.3	-
<u>West</u>					
All incomes-----	638	76.1	6.1	16.7	1.1
Under \$3,000-----	131	90.7	1.7	7.6	-
\$3,000-\$4,999-----	144	81.9	4.9	12.6	0.7
\$5,000-\$6,999-----	170	71.3	4.2	22.1	2.4
\$7,000-\$9,999-----	130	69.3	12.5	18.2	-
\$10,000 and over-----	63	59.7	10.1	26.8	3.4

Table 19. Number and percent distribution of mothers in survey population, by whether they had seen a dentist during the 12 months prior to birth according to metropolitan status and 1962 family income: United States, 1963 births

Metropolitan status and 1962 family income	Number of mothers in thousands	Percent distribution of mothers			
		No visits to dentist	One visit	Two visits or more	Un-known
<u>All areas</u>					
All incomes-----	3,744	72.8	7.2	18.4	1.6
Under \$3,000-----	820	88.0	5.7	5.8	0.6
\$3,000-\$4,999-----	1,030	79.5	6.3	12.5	1.7
\$5,000-\$6,999-----	920	68.1	8.0	21.9	2.0
\$7,000-\$9,999-----	667	59.8	9.7	29.3	1.2
\$10,000 and over-----	307	52.2	7.1	37.7	3.1
<u>Metropolitan areas</u>					
All incomes-----	2,421	70.8	7.4	20.3	1.5
Under \$3,000-----	429	88.2	5.5	5.6	0.7
\$3,000-\$4,999-----	612	80.1	5.9	12.4	1.6
\$5,000-\$6,999-----	625	67.2	8.6	22.4	1.8
\$7,000-\$9,999-----	506	58.5	9.7	30.4	1.4
\$10,000 and over-----	249	51.7	6.7	39.1	2.5
<u>Nonmetropolitan areas</u>					
All incomes-----	1,324	76.5	6.9	15.0	1.6
Under \$3,000-----	391	87.7	5.8	5.9	0.5
\$3,000-\$4,999-----	419	78.6	6.8	12.8	1.8
\$5,000-\$6,999-----	294	70.1	6.7	20.7	2.5
\$7,000-\$9,999-----	161	63.7	9.8	25.9	0.6
\$10,000 and over-----	59	54.1	8.7	31.7	5.5

Table 20. Number and percent distribution of mothers in survey population, by whether they had seen a dentist during the 12 months prior to birth according to color and 1962 family income: United States, 1963 births

Color and 1962 family income	Number of mothers in thousands	Percent distribution of mothers			
		No visits to dentist	One visit	Two or more visits	Unknown
<u>Total</u>					
All incomes-----	3,744	72.8	7.2	18.4	1.6
Under \$3,000-----	820	88.0	5.7	5.8	0.6
\$3,000-\$4,999-----	1,030	79.5	6.3	12.5	1.7
\$5,000-\$6,999-----	920	68.1	8.0	21.9	2.0
\$7,000-\$9,999-----	667	59.8	9.7	29.3	1.2
\$10,000 and over-----	307	52.2	7.1	37.7	3.1
<u>White</u>					
All incomes-----	3,265	70.2	7.6	20.6	1.6
Under \$3,000-----	570	86.2	5.7	7.4	0.6
\$3,000-\$4,999-----	879	77.2	6.7	14.5	1.6
\$5,000-\$6,999-----	876	67.4	8.0	22.4	2.1
\$7,000-\$9,999-----	645	59.1	10.0	29.9	1.0
\$10,000 and over-----	295	50.7	7.4	38.7	3.2
<u>Nonwhite</u>					
All incomes-----	479	90.6	4.7	3.3	1.4
Under \$3,000-----	250	91.9	5.5	2.0	0.7
\$3,000-\$4,999-----	151	92.4	3.9	1.2	2.5
\$5,000-\$6,999-----	44	82.6	6.5	10.8	-
\$7,000-\$9,999-----	*	*	*	*	*
\$10,000 and over-----	*	*	*	*	*

APPENDIX I

TECHNICAL NOTES ON METHODS

This report presents estimates of visits for medical care made during the year prior to childbirth by women having liveborn infants during 1963. It is based on data collected during the 1963 National Natality Survey. The survey, which was conducted by the Division of Health Records Statistics (in part under contract with the Division of Radiological Health) was designed primarily to provide national estimates of the amount and type of exposure to ionizing radiation experienced by women during pregnancy. In the course of obtaining the radiation data, information about the number of visits the mother had made to physicians, medical facilities, and dentists; and the date of the first visit made during the year before the child was born were also obtained. This report is based on the responses to the questions concerning the number of visits and on the information furnished by the mother about certain socioeconomic and demographic characteristics of her family.

The basic source of data was the birth certificate. The survey was conducted principally with sources of information identified on the birth record which served as the primary sampling unit and, occasionally, with secondary sources reported by a primary source.² Since the mailing addresses of these sources were usually reported on the birth record, the mail survey was the principal method of data collection, supplemented by personal interviews where feasible.

Sample Design

The sampling frame for the 1963 National Natality Survey was the file of microfilms of birth records received each month by the National Center for Health Statistics from the 54 birth-registration areas of the United States. As a general rule, for each registration area these microfilm images are assigned a number prior to or during filming of the birth record. Each thousand consecutive images are defined as a "reel" and assigned a reel number starting from zero. Within each reel, the images are numbered from 1 to 1,000.

The sampling for the survey was based on a probability design which made use of these preassigned reel and image numbers on the birth records. Each reel of the microfilm copies of the birth certificates constituted a primary sampling unit. Within each reel one record was chosen on a random selection basis. Thus, a sample of 1 out of 1,000 births was selected from the monthly shipment of records from the registration areas.

The national sample included a total of 4,096 births for the year 1963. Of these 4,096 births, 214 were reported as illegitimate on the birth record. However, legitimacy is reported in only 35 of the 54 registration areas in the United States. Hence, a procedure was developed to infer legitimacy on the basis of indirect evidence on the birth certificate for the 19 registration areas not reporting this item. Thus, if on the birth record the surname of the father was different from the surname of the child or if the surname of the father was not reported on the birth record, the birth was imputed as illegitimate. On the basis of this procedure 102 births in the sample were inferred to be illegitimate in addition to those mentioned above.

These 316 illegitimate births plus an additional 54 births were excluded from the survey of mothers. (The State of Missouri withdrew from the survey after June 1963. Thus, 45 births selected in the sample from Missouri for the period July through December 1963 were excluded from the survey. Nine additional births were excluded from the survey either because residence was outside the United States or because no usable mailing address was available.) Thus, the final sample included in the survey of mothers was 3,726 births. Table I shows the size of the original sample drawn from the birth records and the final sample of mothers to whom questionnaires were mailed.

In contrast with the survey of mothers, in which illegitimate births were excluded, medical inquiries were sent in all instances where a medical source of information was identified. Hence, statistics which did

Table I. Total number of births in the United States and the number in the survey of mothers:
National Natality Survey, 1963

Item	Size
Total count of births in the United States-----	4,098,000
Number of births selected in the sample-----	4,096
Number of births excluded from survey:	
Number of illegitimate births-----	316
Number of births from Missouri: July-December 1963-----	45
Other-----	9
Number of births included for the survey of mothers-----	3,726

not require information provided by the mother relate to all births selected in the sample.

Birth Certificate and Questionnaires

Facsimiles of the standard certificate of live birth and of the questionnaire used in the survey are shown in Appendix III.

Although not all States use the standard certificate, most do include the basic information which is used in this report. The major exception is legitimacy (item 23) which is not reported in 19 States. The procedure which was developed to overcome this omission has been discussed under sample design.

The questionnaire sent to the mother was primarily designed to obtain names and addresses of any physicians and medical facilities which she had visited during the year before the birth of her child in addition to those named on the birth certificate. The mother's questionnaire was also the only source of names of dentists. In addition, there were six questions concerning the parents' employment status, their educational attainment, and the family's income.

The questionnaires sent to physicians and to medical facilities were essentially alike. The respondent was asked whether the mother had received any examination or treatment by X-ray during the 12 months preceding the birth of her child. If she had, he was asked for details about the X-ray procedures. Whether the mother had received an X-ray examination or not, the respondent was asked to report the number of times the mother had been seen for medical care during the 12 months, and the dates of the first and last visits during that period.

The questionnaire sent to dentists was similar to that sent to physicians and medical facilities except that fewer questions were asked about the X-ray examinations.

Collection of Data

Data for the 1963 National Natality Survey were collected primarily by mail. Using the addresses given on the birth certificate, questionnaires were sent to the mother, the physician who delivered the baby, and the medical facility where the baby was born.

For mothers, followup procedures consisted of a certified mailing 2 weeks after the initial mailing and a regular first-class mailing 3 weeks after the certified mail. Telephone or personal interviews were conducted by Bureau of the Census interviewers with mothers who did not respond after all three mailings and who lived in one of the field survey areas of the current population survey program of the Bureau of the Census. These procedures resulted in a response rate of 86.4 percent from mothers included in the survey (table II).

Followup procedures for physicians, dentists, and institutions were similar to those for mothers, with two differences: (1) the first followup was by first-class mail, and the second followup was by certified mail, (2) no telephone or personal interviews were conducted after the three mailings. The total response rate from these sources was higher than 90 percent.

Reporting of visits to physicians and medical facilities was relatively independent of the mother since the primary source was named on the birth certificate and secondary sources were elicited on the questionnaire sent to the named primary sources. Internal audits and hand tallies showed that this method was effective in obtaining names of additional physicians and medical facilities which had given the mother care. Even if the mother failed to respond to the questionnaire or failed to list a source of medical care, the names could still be obtained from the primary sources where not only was

Table II. Response received from mothers, physicians, medical facilities, and dentists, by mailing waves: National Natality Survey, 1963

Response status	Mothers	Physicians	Medical facilities	Dentists
Number included in survey-----	3,726	4,474	4,432	1,360
	Percent			
Total response-----	86.4	93.1	97.6	97.0
Response to original mail-----	45.3	66.5	77.4	81.2
Response to second mail-----	29.0	17.6	15.3	11.5
Response to third mail-----	6.8	9.0	4.9	4.3
Response to interview-----	5.1
Total-----	13.6	6.9	2.4	3.0

the response rate high but the quality of the information was excellent.

However, the identification of dentists was completely dependent on the names being reported by the mother. As a result there is no usable information on dental visits for those mothers who were not sent questionnaires.

Processing of Data

The completed questionnaires were edited and coded in accordance with predetermined specifications. The questionnaires were checked both for completeness and for consistency of response. If the reported data were inadequate for certain essential items, further mail inquiries were made for these specific items.

After the edited and coded data had been transcribed onto punchcards the data were processed on electronic computers. The computer processing included consistency checks to eliminate errors in editing, coding, or processing interval edits, assignment of weights, and imputation for missing data.²

Nonresponse and Imputation of Missing Data

Failure to obtain response represents one of the main sources of error in a survey. The extent of nonresponse and imputation of missing data in the 1963 National Natality Survey are discussed below in terms of the sources of information used in the survey to obtain information.

Mothers.—A total of 508 mothers, or 13.6 percent, had not responded after all followup procedures were completed. Included in the 508 are 28 respondents who returned the questionnaires substantially incomplete; for the purposes of processing the data, these respondents were treated in the same manner as unit nonrespondents. A large proportion of this nonresponse

was accounted for by mothers in the younger ages. Almost 57.6 percent of the 508 mothers not responding, compared with 45.0 percent of the respondents, were less than 25 years of age.

Besides these mothers who represented "unit non-response" in the survey, missing information on returned questionnaires also affects the quality of data derived from the survey. Nonresponse to items on questionnaires returned by mothers was minimal in most instances and accounted for no more than 3.1 percent for any single item. Table III shows the percent not ascertained for specified items by age of mother and live-birth order. The principal problem of incompleteness in the returned questionnaires arose from failure to obtain information about the total income of the family, a problem which was found disproportionately among mothers under 25 years of age and among mothers who were having their first child or their fifth child or more.

In order to reduce the effect of nonresponse on the estimates, statistics derived from the survey of mothers were adjusted for unit nonresponse by imputing to nonrespondents the characteristics of "similar" respondents. Similar respondents were mothers who responded to later mailings within each of the 24 age-of-mother, color, and live-birth-order groups. Two assumptions are inherent in this imputation procedure. The three birth record characteristics—age of mother, color, and live-birth order—are available for responding as well as nonresponding mothers and are related to the socioeconomic variables on the questionnaire sent to mothers; and the nonrespondents would be more like those who responded to the later mailings than those who responded to the first mailing. The latter assumption is based on the pattern of response by mailing waves observed in relation to the educational and income level of the respondents.

Thus, an array of known values was established in the computer using the respondents to later mailings

Table III. Percent of respondents for whom specified items were not ascertained, by age of mother and live-birth order: National Natality Survey, 1963

Age of mother and live-birth order	Total number of respondents	Family income	Education of mother	Education of father	Mother's employment status	Father's employment status
Total-----	3,218	3.1	0.2	0.8	0.1	0.7
Percent not ascertained						
<u>Age of mother</u>						
Under 20 years-----	373	6.2	-	0.3	-	0.8
20-24 years-----	1,074	3.0	0.1	0.6	-	0.8
25-29 years-----	948	1.8	0.3	0.8	0.1	0.3
30-34 years-----	486	3.3	0.6	1.0	0.4	1.4
35 years and over-----	337	3.9	0.3	1.2	-	0.3
<u>Live-birth order</u>						
First-----	864	4.2	-	0.2	-	0.6
Second-----	777	2.1	-	0.4	-	0.4
Third-----	595	2.4	0.2	1.3	-	1.0
Fourth-----	409	2.2	0.5	1.0	-	0.7
Fifth birth and over-----	573	4.5	0.9	1.4	0.5	1.0

within the 24 homogeneous groups as the known population of similar respondents from which values were imputed to the nonresponse records. Values in the cells of the array were continually replaced by successive known values as the file of records was processed; as a nonresponse record was read, values from the appropriate cell of the array were imputed to the nonresponse record.

Data are also adjusted for item nonresponse. Imputation procedures for missing data on questionnaires returned by mothers were based on the premise that "the presence of several correlated variables permits a reasonably good prediction of the missing variable. . . ."³

Thus, missing data for items on employment of father, education of father, and family income were imputed on the computer on the same principle as for unit nonresponse, that is, imputation was made by assigning within homogeneous groups the characteristics of respondents to later mailings with known data to those respondents with missing data. The array by age of mother, color, and live-birth order used for imputation of unit nonresponse was also used for imputation of missing data on employment of father. Missing information on education of father was imputed using age of father and education of mother. Missing information on family income was imputed using age and education of father.

Missing data on employment status of mother during pregnancy for three cases and on education of mother for eight cases were imputed arbitrarily.

Physicians, dentists, and medical facilities.—The nonresponse rate for medical and dental sources

was much lower than that for mothers. Only 6.9 percent of the physicians, 3.0 percent of the dentists, and 2.4 percent of the medical facilities included in the survey did not respond after all followup procedures were completed.

All items on the questionnaires returned by physicians, dentists, and medical facilities were complete with the exception of 1 instance of the type of equipment used, 2 relating to the primary body area, and 12 relating to the number of films.

No imputation for unit nonresponse was undertaken because of the relatively low nonresponse rate and the high probability of a given examination being reported by more than one source. The few cases enumerated above for which information was missing were adjusted manually with the aid of professional medical opinion.

Birth Records

With the exception of color of child for births selected from New Jersey, age of father, and completed weeks of pregnancy, information on the birth record was in most cases complete. During 1962, the item on color of child was removed from the New Jersey birth record. Although this item was replaced in late 1962, almost all births occurring during 1963 were registered on birth records not containing the question on color. Thus, information on color of child was missing on approximately 100 records from New Jersey selected in the sample. Imputation for color of child was carried out by means of a procedure using detailed geographic information on place of residence of mother

Table IV. Color, age, and live-birth order groups used in ratio estimation: National Natality Survey, 1963

Group	Color and age	Live-birth order	Group	Color and age	Live-birth order
	<u>White</u>			<u>Nonwhite</u>	
1	Under 20 years	1	15	Under 20 years	1
2	Under 20 years	2+	16	Under 20 years	2+
3	20-24 years	1	17	20-24 years	1-2
4	20-24 years	2	18	20-24 years	3+
5	20-24 years	3+	19	25-29 years	1-2
6	25-29 years	1	20	25-29 years	3-4
7	25-29 years	2	21	25-29 years	5+
8	25-29 years	3-4	22	30-34 years	1-4
9	25-29 years	5+	23	30-34 years	5+
10	30-34 years	1-2	24	35 years and over	All
11	30-34 years	3-4			
12	30-34 years	5+			
13	35 years and over	1-4			
14	35 years and over	5+			

and proportion of nonwhite population in that location according to the 1960 census.

In addition, information on completed weeks of pregnancy was unknown on 214 birth records; number of previous fetal deaths was unknown for 92 records; and age of father was missing on 255 records. Imputation for these items was also carried out on the computer by substituting known values within the homogeneous groups created by the age, color, and live-birth-order array described earlier. For items such as birth weight, sex of child, and birthplace of mother, where the number of unknown cases was small, imputation was made arbitrarily.

Estimation

Statistics based on the survey are estimates prepared by the use of a post-stratified ratio estimation procedure. The purpose of ratio estimation is to take into account available relevant information in the estimation process, thereby reducing the variability of the estimate. This procedure was carried out for each of the 24 groups shown above.

For each group, the ratio of the number of births in the United States in 1963 (based on a 50-percent sample) to the number of births in the sample was determined.³ These 24 ratios comprised the sample weights used in estimating national totals for each of the 24 groups. The effect of this ratio adjustment was to make the estimates from the sample consistent with the complete count of births for each of the groups used in the estimation procedure.

Thus, estimates of characteristics from the sample are produced using the following formula:

$$x' = \sum_{i=1}^{24} \frac{x_i}{y_i} \gamma_i \quad x' = \sum_{i=1}^{24} \frac{x_i}{y_i} \gamma$$

where

x' is the estimate of the number of births with a particular characteristic in group i

x_i is the count of sample births with the characteristic in group i

y_i is the count of all sample births in group i and γ_i is the total number of births in group i based on the 50-percent sample.

Reliability of Estimates

Since the statistics derived from this survey are estimates based on a sample, they may differ from the figures that would have been obtained had a census covering all births in 1963 been conducted using the same questionnaires and procedures. In addition to sampling errors survey results are subject to measurement errors which include, among others, those errors resulting from errors in conceptual formulation, ambiguities in definitions and in the questionnaire construction, coding errors, biases due to non-response or incomplete response, mistakes in editing, and tabulation errors.

The probability design of the sample for the survey makes possible the calculation of sampling errors. The standard error is a measure of the sampling vari-

Table IV. Approximate standard errors for estimated numbers shown in this report

Size of estimate	Relative standard error	Standard error
25,000-----	16.8	4,200
50,000-----	12.0	6,000
75,000-----	9.8	7,350
100,000-----	8.5	8,500
250,000-----	5.0	12,500
500,000-----	3.3	16,500
750,000-----	2.5	18,750
1,000,000-----	2.0	20,000
1,500,000-----	1.5	22,500

ation in the survey statistics that occurs by chance because only a sample rather than the entire population is surveyed. The chances are about 68 out of 100 that an estimate from the sample differs from the value obtained from a survey of the entire population by less than the standard error. The chances are about 95 out of 100 that the difference is less than twice the standard error. The standard error of a difference between two sample estimates is approximately the square root of the sum of squares of each standard error considered separately. This formula represents the actual standard error quite accurately for the difference between separate and uncorrelated characteristics, although it is only a rough approximation in most other cases.

The variance of a statistic depends not only on the design of the sample, but also on the distribution of the statistic itself; the variance is greater for measurements which are highly variable from one individual to another, and lower for measurements which are less variable. Since the estimates of the sampling error are obtained from the sample data, they are themselves subject to sampling error, which may be large in some instances.

Estimates of sampling variability for the statistics derived from this survey were based on 20 random half-sample replications.⁴ This technique yields overall variability through observation of variability among random subsamples of the total sample. It reflects both the error that arises from sampling and a part of the measurement error, but it does not measure any systematic biases in the data. A general discussion of the development and evaluation of a replication technique for estimating variance has been published elsewhere.⁵ However, the procedures and computations required to estimate variances by this method in the 1963 National Natality Survey are briefly described below.

For the survey, each record from the entire file of records was assigned systematically to a random group between 1 and 40. Twenty pairs of random groups

were created from these groups. A half sample was formed by randomly selecting one group from each of the 20 pairs. This process was repeated until 20 "replicate half samples" were formed from which variance estimates were derived. The composition of the 20 half samples was determined by an orthogonal plan.

After the composition of each of the half samples was determined, all the estimation procedures used to produce the final estimates from the entire sample were applied separately to each of the resulting half samples.

An estimated variance $S_{x'}^2$ of an estimated statistic x' of the parameter X is obtained by applying the following formula:

$$S_{x'}^2 = \frac{1}{20} \sum_{i=1}^{20} (x_i' - x')^2$$

where

x' is the estimate of X based on the entire sample, and x_i' is the estimate of X based on half sample i .

Rules to determine the approximate standard errors for estimates presented in this report are as follows:

1. *Estimates of aggregates.*—Approximate standard errors of estimates of aggregates, such as the number of births with a given characteristic, are given in table IV.
2. *Estimates of percentages in a percent distribution.*—Approximate standard errors for percentages are determined in one of the two following ways, depending upon the source of the base of the percentage:
 - a. Where both numerator and denominator are estimates from the sample data, such as the percentage of wives in the Northeast Region

Table V. Approximate standard error for estimated percentages shown in this report

Base of percentage	Estimated percentage					
	2 or 98	5 or 95	10 or 90	20 or 80	30 or 70	50
	Standard error					
30,000-----	2.0	3.1	4.2	5.6	6.4	7.0
50,000-----	1.5	2.4	3.3	4.3	5.0	5.4
100,000-----	1.1	1.7	2.3	3.1	3.5	3.8
250,000-----	0.7	1.1	1.5	1.9	2.2	2.4
500,000-----	0.5	0.7	1.0	1.4	1.6	1.7
1,000,000-----	0.3	0.5	0.7	1.0	1.1	1.2
2,000,000-----	0.2	0.4	0.5	0.7	0.8	0.9
3,000,000-----	0.2	0.3	0.4	0.6	0.6	0.7
4,000,000-----	0.2	0.3	0.4	0.5	0.5	0.6

Table VI. Relative standard errors of number of visits for medical care per 1,000 mothers

Number of visits per 1,000 mothers	Number of mothers in base				
	50,000	100,000	250,000	500,000	1,000,000
2,000-----	29.5	17.8	9.7	5.9	4.9
4,000-----	22.9	14.0	7.4	4.7	4.0
6,000-----	18.1	11.1	6.0	3.7	3.1
8,000-----	14.4	8.8	4.9	3.0	2.4
10,000-----	11.4	7.9	3.9	2.4	1.8
12,000-----	9.1	5.5	3.0	1.8	1.4

who had their third child in 1963, the approximate standard errors are given in table V.

- b. Where the denominator is a value found in 1 of the 24 ratio-estimate cells shown on page 42 and is therefore not subject to sampling error, the relative standard error of the percent is equivalent to the relative standard error of the numerator, which can be obtained directly from table IV.
3. *Difference between two sample estimates.*—The standard error of a difference is approximately the square root of the sum of the squares of each standard error considered separately. This formula will represent the actual standard error quite accurately for the difference between separate and uncorrelated characteristics although it is only a rough approximation in most cases.

4. *Estimate of a mean.*—Approximate standard errors for a mean depend on the source of the base for the mean. When the denominator is an estimate from sample data, such as the number of women who were high school graduates, the approximate standard errors can be found in table VI.

Rounding of Numbers

The original tabulations on which the data in this report are based show figures to the nearest whole unit. In the published tables, estimates of aggregates are rounded to the nearest thousand although they are not necessarily accurate to that detail. All percentages, ratios, and averages were computed using unrounded figures.



APPENDIX II

DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT

Demographic and Socioeconomic Terms

Information is from the birth certificate or the mother query.

Age of mother.—Age of mother is recorded or derived from entries on the birth certificate. Age in this report refers to age at last birthday.

Color.—Color is recorded or derived from entries on the birth certificate for color or race as white or nonwhite. The category "white" includes births to parents classified as white, Mexican, or Puerto Rican. Nonwhite births include births to parents classified as Negro, American Indian, Chinese, Japanese, Aleut, Eskimo, Hawaiian, or part-Hawaiian.

Live-birth order.—Live-birth order is derived from entries on the birth certificate and refers to the number of children born alive to the mother.

Education of mother.—Education of the mother is obtained from querying the mother. The categories shown in this report refer to the highest grade of regular school attended. A regular school is one which advances a person toward an elementary or high school diploma or toward a college, university, or professional school degree. Thus, education in schools outside the regular system such as vocational, trade, or business schools is not included.

Family income.—Family income is obtained from querying the mother. The categories shown in this report refer to the total income received during the preceding calendar year by all persons related to each other by blood, marriage, or adoption and living in the same household at the time the baby was born. Income from all sources such as wages, salaries, help from relatives, unemployment compensation, and so forth, is included.

Geographic Terms

Information is derived from entries on the birth certificate. Both region and metropolitan status refer to the mother's usual place of residence.

Region.—For the purpose of classifying the population by geographic area, the States are grouped into

four regions. These regions, which correspond to those used by the Bureau of the Census, are as follows:

<i>Region</i>	<i>States Included</i>
Northeast -----	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania
North Central ----	Michigan, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas
South -----	Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas
West -----	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Alaska, Washington, Oregon, California, Hawaii

Metropolitan status.—For the purpose of classifying the population by metropolitan status, the definition which was set up by the Office of Statistical Standards, U.S. Bureau of the Budget, for the 1960 census was used.⁶ The classification is done by counties. The counties are either inside or outside standard metropolitan statistical areas (metropolitan State economic areas in New England), and all places within the county are given the county designation.

Medical Terms

Information is from the physician, dentist, and medical facility questionnaires.

Visit.—Visit is defined by the physician's (hospital's or dentist's) response that he had seen the mother during the 1-year period and the number of times he had seen her. Accuracy was insured by asking for the

dates of the first and the last visit. If both were not within the 1-year period the respondent was again questioned to obtain the correct number of visits within the specified period.

Physician.—Physicians signing the birth certificate were queried unless their address was that of the hospital in which the birth occurred. Also, all physicians named by any primary source were queried. The primary source for indentifying physicians was the directory of the American Medical Association.

Medical facility.—Medical facility is a hospital, clinic, or other institution which the mother visited during the year.

Dentist.—All dentists named by the mother or by any other source were queried. The primary source for indentifying dentists was the directory of the American Dental Association.

Trimester.—Trimester is computed by comparing the date when the mother was first seen with the date of birth.



APPENDIX III

SOURCE FORMS

Standard Certificate of Live Birth

Form approved,
Budget Bureau No. 68-R374.2.

CERTIFICATE OF LIVE BIRTH

STATE OF _____ BIRTH NO. _____

1. PLACE OF BIRTH a. COUNTY b. CITY, TOWN, OR LOCATION c. NAME OF HOSPITAL OR INSTITUTION <i>(If not in hospital, give street address)</i> d. IS PLACE OF BIRTH INSIDE CITY LIMITS? <input type="checkbox"/> NO <input type="checkbox"/> YES		2. USUAL RESIDENCE OF MOTHER (Where does mother live?) a. STATE b. COUNTY c. CITY, TOWN, OR LOCATION d. STREET ADDRESS e. IS RESIDENCE INSIDE CITY LIMITS? <input type="checkbox"/> YES <input type="checkbox"/> NO	
3. NAME (Type or print) First _____ Middle _____ Last _____		6. DATE OF BIRTH Month _____ Day _____ Year _____	
CHILD	4. SEX SINGLE <input type="checkbox"/> TWIN <input type="checkbox"/> TRIPLET <input type="checkbox"/>	5b. IF TWIN OR TRIPLET, WAS CHILD BORN 1st <input type="checkbox"/> 2d <input type="checkbox"/> 3d <input type="checkbox"/>	
FATHER	7. NAME First _____ Middle _____ Last _____	8. COLOR OR RACE	
MOTHER	9. AGE (At time of this birth) YEARS _____	10. BIRTHPLACE (State or foreign country)	11a. USUAL OCCUPATION
INFORMANT	12. MAIDEN NAME First _____ Middle _____ Last _____	13. COLOR OR RACE	
14. AGE (At time of this birth) YEARS _____	15. BIRTHPLACE (State or foreign country)	16. PREVIOUS DELIVERIES TO MOTHER (Do NOT include this birth) a. How many OTHER children are now living? _____ b. How many OTHER children were born alive but are now dead? _____ c. How many fetal deaths (fetuses born dead at ANY time after conception)? _____	
17. INFORMANT			
18. MOTHER'S MAILING ADDRESS			
I hereby certify that this child was born alive on the date stated above.		18a. SIGNATURE 18b. ADDRESS	18c. ATTENDANT AT BIRTH M. D. <input type="checkbox"/> D. O. <input type="checkbox"/> MIDWIFE <input type="checkbox"/> OTHER (Specify) _____ 18d. DATE SIGNED
19. DATE RECD. BY LOCAL REG.	20. REGISTRAR'S SIGNATURE	21. DATE ON WHICH GIVEN NAME ADDED BY _____ (Registrar)	
FOR MEDICAL AND HEALTH USE ONLY <i>(This section MUST be filled out)</i>			
22a. LENGTH OF PREGNANCY COMPLETED WEEKS	22b. WEIGHT AT BIRTH LB. _____ OZ. _____	23. LEGITIMATE YES <input type="checkbox"/> NO <input type="checkbox"/>	
(SPACE FOR ADDITION OF MEDICAL AND HEALTH ITEMS BY INDIVIDUAL STATES)			

Survey Questionnaire for Mothers



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

WASHINGTON 25, D. C.

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The U. S. Public Health Service is doing a national study to find out how much and what kinds of medical and dental care women are receiving during the year before the birth of a child. Nothing is known about the extent of the care received by expectant mothers, even though such care is of the greatest importance for the future health of both mother and baby. A knowledge of what is actually happening throughout the Nation will go a long way in helping to improve the health of mothers and babies.

The information needed for this study will be based on the experience of the mothers of 4,000 babies out of the 4 million born during 1963. These mothers were selected as a random sample of all mothers who have a baby, and you are one of those so selected. We are therefore asking you to answer the questions on the following pages of this form, and to return it to us in the enclosed envelope which requires no postage.

Please notice that in the first part of the form the questions ask about every doctor, dentist, hospital, or clinic from which you received any care during the entire year before your baby was born. Your answers should not be just for the care connected with pregnancy, but for any and all medical and dental care or checkups during these 12 months.

All information about you and your baby will be kept completely confidential. Your answers will be used for health research only and for no other purpose. As you might expect, it is particularly important that we receive your answers and those of all the other 4,000 mothers, since each of you really represents 1,000 mothers.

Your cooperation in this study is deeply appreciated.

Sincerely yours,

O. K. Sagen, Ph. D., Chief
National Vital Statistics Division
National Center for Health Statistics

Name of Child	
Date of Birth	File Number

SURVEY OF MEDICAL AND DENTAL CARE

PART I. SOURCES OF MEDICAL AND DENTAL CARE DURING ONE-YEAR PERIOD BEFORE CHILDBIRTH																						
<p>1. Please provide the information requested below about the physician, chiropractor or midwife who attended you at the recent birth of your child.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">Name</td></tr> <tr><td style="padding: 2px;">Address</td></tr> <tr><td style="padding: 2px;">City (town) and State</td></tr> <tr><td style="padding: 2px;">How many times were you seen by this doctor during the one-year period?</td></tr> </table>	Name	Address	City (town) and State	How many times were you seen by this doctor during the one-year period?	<p>3. Were you seen by a dentist during this one-year period?</p> <p style="text-align: center;"> <input type="checkbox"/> YES <input type="checkbox"/> NO (Go on to Question 4) </p> <p style="text-align: center;">↓</p> <p style="text-align: center;">Complete a section below for each dentist.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">Name</td></tr> <tr><td style="padding: 2px;">Address</td></tr> <tr><td style="padding: 2px;">I City (town) and State</td></tr> <tr><td style="padding: 2px;">How many times were you seen by this dentist during the one-year period?</td></tr> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;">Name</td></tr> <tr><td style="padding: 2px;">Address</td></tr> <tr><td style="padding: 2px;">II City (town) and State</td></tr> <tr><td style="padding: 2px;">How many times were you seen by this dentist during the one-year period?</td></tr> </table>	Name	Address	I City (town) and State	How many times were you seen by this dentist during the one-year period?		Name	Address	II City (town) and State	How many times were you seen by this dentist during the one-year period?								
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II City (town) and State																						
How many times were you seen by this dentist during the one-year period?																						
<p>2. Were you seen by any other physician or chiropractor during the one-year period before the recent birth of your child?</p> <p style="text-align: center;"> <input type="checkbox"/> YES <input type="checkbox"/> NO (Go on to Question 3) </p> <p style="text-align: center;">↓</p> <p style="text-align: center;">Complete a section below for each doctor or chiropractor.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">Name</td></tr> <tr><td style="padding: 2px;">Address</td></tr> <tr><td style="padding: 2px;">I City (town) and State</td></tr> <tr><td style="padding: 2px;">How many times were you seen by this doctor during the one-year period?</td></tr> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;">Name</td></tr> <tr><td style="padding: 2px;">Address</td></tr> <tr><td style="padding: 2px;">II City (town) and State</td></tr> <tr><td style="padding: 2px;">How many times were you seen by this doctor during the one-year period?</td></tr> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;">Name</td></tr> <tr><td style="padding: 2px;">Address</td></tr> <tr><td style="padding: 2px;">III City (town) and State</td></tr> <tr><td style="padding: 2px;">How many times were you seen by this doctor during the one-year period?</td></tr> </table>	Name	Address	I City (town) and State	How many times were you seen by this doctor during the one-year period?		Name	Address	II City (town) and State	How many times were you seen by this doctor during the one-year period?		Name	Address	III City (town) and State	How many times were you seen by this doctor during the one-year period?	<p>4. During this one-year period, were you treated or examined in a clinic or hospital not reported above? (Include health checkups at work, visits to mobile health units, etc.)</p> <p style="text-align: center;"> <input type="checkbox"/> YES <input type="checkbox"/> NO (Go on to next page) </p> <p style="text-align: center;">↓</p> <p style="text-align: center;">Complete a section below for each place where you were treated or examined.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">Name</td></tr> <tr><td style="padding: 2px;">Address</td></tr> <tr><td style="padding: 2px;">I City (town) and State</td></tr> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;">Name</td></tr> <tr><td style="padding: 2px;">Address</td></tr> <tr><td style="padding: 2px;">II City (town) and State</td></tr> </table>	Name	Address	I City (town) and State		Name	Address	II City (town) and State
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PART II. RELATED INFORMATION

1. Were you employed outside your home at any time during your recent pregnancy?

YES (Answer a and b below) NO (Go on to Question 2)

a. Did you work full-time at all during your recent pregnancy?

YES NO

When did you stop working full-time?

Month	Day	Year
		19__

b. Did you work part-time at all during your recent pregnancy?

YES NO

When did you stop working part-time?

Month	Day	Year
		19__

2. What was the highest grade (or year) of regular school that you ever attended?
(Circle highest grade attended)

- NONE----- 0
- ELEMENTARY SCHOOL---- 1 2 3 4 5 6 7 8
- HIGH SCHOOL----- 1 2 3 4
- COLLEGE----- 1 2 3 4 5 6+

Did you COMPLETE this grade? YES NO

3. What was the highest grade (or year) of regular school that your husband ever attended?
(Circle highest grade attended)

- NONE----- 0
- ELEMENTARY SCHOOL---- 1 2 3 4 5 6 7 8
- HIGH SCHOOL----- 1 2 3 4
- COLLEGE----- 1 2 3 4 5 6+

Did he COMPLETE this grade? YES NO

4. Was your husband employed at the time of your child's birth?

YES → Was he working (check one) FULL-TIME
 NO PART-TIME

5. What kind of work was your husband doing at the time of your child's birth? (If he was not working then, please give information for his last job)
GIVE FULL DESCRIPTION (For example: grocery clerk, auto mechanic, elementary school teacher)

6. What was the total income of your family during 1962? (Include all income such as wages, salaries, unemployment compensation, help from relatives, etc., received by all members of the family living with you when your baby was born)

- NONE \$4,000 - \$4,999
- UNDER \$1,000 \$5,000 - \$6,999
- \$1,000 - \$1,999 \$7,000 - \$9,999
- \$2,000 - \$2,999 \$10,000 - \$14,999
- \$3,000 - \$3,999 \$15,000 OR OVER

7. Where did you live when your baby was born?
(Please give your home address)

Number and Street

City (town) and State

County

Is this place on a city lot (or in an apartment building)?

YES NO

(Name and address of person completing this form)

Survey Questionnaire for Physicians



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

WASHINGTON 25, D. C.

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Your assistance is needed in a small but important sample survey conducted by the U. S. Public Health Service with the approval of your State Health Department. The primary purpose of this survey is to estimate how often mothers are exposed to ionizing radiation in the year preceding a birth. The survey will also provide useful data on the extent to which expectant mothers avail themselves of medical care. The mothers on whom data are being collected were identified from a random sample of about 4,000 births out of the 4 million occurring in the United States during 1963.

According to our records, the mother named below was seen or treated by you at some time during the year prior to the recent birth of her child. We ask your cooperation in answering the questions on the following pages, which relate to the medical care she received during the one-year period preceding childbirth. The exact dates covered by this period are shown below. Information is needed on each exposure to ionizing radiation this woman experienced during this period, irrespective of its relationship to pregnancy.

Since the survey is based on only a small sample of mothers, it is particularly important that we obtain full information on each. A postage-free envelope is enclosed for your convenience in replying. You may be assured that your report will be held in strictest confidence and used only for statistical research.

Your cooperation in this study is deeply appreciated.

Sincerely yours,

O. K. Sagen, Ph. D., Chief
National Vital Statistics Division
National Center for Health Statistics

P

Name of Mother	Maiden Name	
Address	Place of Birth of Child	
City-State	Date of Birth	File Number
PERIOD COVERED BY THIS SURVEY: FROM _____ TO _____		

SURVEY OF RADIOLOGICAL EXAMINATIONS

PART I. RADIOLOGICAL EXAMINATIONS OR TREATMENTS DURING ONE-YEAR PERIOD BEFORE CHILDBIRTH

To your knowledge, was the mother examined or treated by X-ray or fluoroscope at any time during the one-year period before childbirth as specified at the bottom of the preceding page?

NO (Skip to Part II on last page)

YES → How many radiological examinations or treatments did she receive during this one-year period?

_____ (number) (Complete section(s) below, then go on to last page)

- ▶ Complete a separate section below for EACH radiological examination or treatment performed during the ONE-YEAR PERIOD, whether or not related to pregnancy.
- ▶ If the SAME TYPE of procedure was performed MORE THAN ONCE, please report EACH SEPARATELY.
- ▶ If more than one procedure was performed on the SAME DATE, please report EACH SEPARATELY.
- ▶ In reporting NUMBER OF EXPOSURES, please include those which may have been technically unsatisfactory.
- ▶ If necessary, continue on a separate sheet.

SECTION 1. FIRST RADIOLOGICAL EXAMINATION OR TREATMENT DURING ONE-YEAR PERIOD

Date of examination or treatment? _____ (month) _____ (day) _____ (year)	1. Type of radiological equipment used? (check one)	<input type="checkbox"/> DIAGNOSTIC RADIOGRAPHY <input type="checkbox"/> DIAGNOSTIC FLUOROSCOPY <input type="checkbox"/> DIAGNOSTIC PHOTOFLUOROGRAPHY <input type="checkbox"/> X-RAY THERAPY
	2. Primary area of body exposed? _____	
	3. Type of service rendered to mother? (check one)	<input type="checkbox"/> PELVIMETRY <input type="checkbox"/> INTRAVENOUS PYELOGRAM <input type="checkbox"/> PLACENTOGRAPHY <input type="checkbox"/> OTHER (specify) _____ <input type="checkbox"/> ROUTINE CHEST
	4. Number of exposures?	_____ (include those technically unsatisfactory) (number)
	5. Place where examination or treatment was performed?	<input type="checkbox"/> DONE AT MY OWN OFFICE OR ↓ Name of physician, hospital or clinic _____ Address _____ City-State _____

SECTION 2. SECOND RADIOLOGICAL EXAMINATION OR TREATMENT DURING ONE-YEAR PERIOD

Date of examination or treatment? _____ (month) _____ (day) _____ (year)	1. Type of radiological equipment used? (check one)	<input type="checkbox"/> DIAGNOSTIC RADIOGRAPHY <input type="checkbox"/> DIAGNOSTIC PHOTOFLUOROGRAPHY	<input type="checkbox"/> DIAGNOSTIC FLUOROSCOPY <input type="checkbox"/> X-RAY THERAPY
	2. Primary area of body exposed?	_____	
	3. Type of service rendered to mother? (check one)	<input type="checkbox"/> PELVIMETRY <input type="checkbox"/> PLACENTOGRAPHY <input type="checkbox"/> ROUTINE CHEST	<input type="checkbox"/> INTRAVENOUS PYELOGRAM <input type="checkbox"/> OTHER (specify) _____
	4. Number of exposures?	_____ (include those technically unsatisfactory) (number)	
	5. Place where examination or treatment was performed?	<input type="checkbox"/> DONE AT MY OWN OFFICE OR Name of physician, hospital or clinic _____ Address _____ City-State _____	

SECTION 3. THIRD RADIOLOGICAL EXAMINATION OR TREATMENT DURING ONE-YEAR PERIOD

Date of examination or treatment? _____ (month) _____ (day) _____ (year)	1. Type of radiological equipment used? (check one)	<input type="checkbox"/> DIAGNOSTIC RADIOGRAPHY <input type="checkbox"/> DIAGNOSTIC PHOTOFLUOROGRAPHY	<input type="checkbox"/> DIAGNOSTIC FLUOROSCOPY <input type="checkbox"/> X-RAY THERAPY
	2. Primary area of body exposed?	_____	
	3. Type of service rendered to mother? (check one)	<input type="checkbox"/> PELVIMETRY <input type="checkbox"/> PLACENTOGRAPHY <input type="checkbox"/> ROUTINE CHEST	<input type="checkbox"/> INTRAVENOUS PYELOGRAM <input type="checkbox"/> OTHER (specify) _____
	4. Number of exposures?	_____ (include those technically unsatisfactory) (number)	
	5. Place where examination or treatment was performed?	<input type="checkbox"/> DONE AT MY OWN OFFICE OR Name of physician, hospital or clinic _____ Address _____ City-State _____	

SECTION 4. FOURTH RADIOLOGICAL EXAMINATION OR TREATMENT DURING ONE-YEAR PERIOD

Date of examination or treatment? _____ (month) _____ (day) _____ (year)	1. Type of radiological equipment used? (check one)	<input type="checkbox"/> DIAGNOSTIC RADIOGRAPHY <input type="checkbox"/> DIAGNOSTIC PHOTOFLUOROGRAPHY	<input type="checkbox"/> DIAGNOSTIC FLUOROSCOPY <input type="checkbox"/> X-RAY THERAPY
	2. Primary area of body exposed?	_____	
	3. Type of service rendered to mother? (check one)	<input type="checkbox"/> PELVIMETRY <input type="checkbox"/> PLACENTOGRAPHY <input type="checkbox"/> ROUTINE CHEST	<input type="checkbox"/> INTRAVENOUS PYELOGRAM <input type="checkbox"/> OTHER (specify) _____
	4. Number of exposures?	_____ (include those technically unsatisfactory) (number)	
	5. Place where examination or treatment was performed?	<input type="checkbox"/> DONE AT MY OWN OFFICE OR Name of physician, hospital or clinic _____ Address _____ City-State _____	

PART II. MEDICAL CARE RECEIVED BY MOTHER DURING ONE-YEAR PERIOD BEFORE CHILDBIRTH

1. How many times did you see this patient during the one-year period? *(If exact number not known, please give best estimate)*

Number of times

2. On what date did you see her for the first time during the one-year period?

Month	Day	Year
		19

3. On what date did you see her for the last time during the one-year period?

Month	Day	Year
		19

4. If this patient was referred to you, please give names and addresses of referring physicians, clinics or hospitals.

Name
Address
City-State

Name
Address
City-State

5. If you referred this patient to another physician, or to a hospital or clinic, please give names and addresses of physicians or institutions to which referred.

Name
Address
City-State

Name
Address
City-State

6. If this patient was seen or treated during the one-year period by any other physician, hospital or clinic not reported above or on the previous page, please give names and addresses.

Name
Address
City-State

Name
Address
City-State

(Name of person completing this form)

COMMENTS

Survey Questionnaire for Medical Facilities



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

WASHINGTON 25, D. C.

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Your assistance is needed in a small but important sample survey conducted by the U. S. Public Health Service with the approval of your State Health Department. The primary purpose of this survey is to estimate how often mothers are exposed to ionizing radiation in the year preceding a birth. The survey will also provide useful data on the extent to which expectant mothers avail themselves of medical care. The mothers on whom data are being collected were identified from a random sample of about 4,000 births out of the 4 million occurring in the United States during 1963.

According to our records, the mother named below was seen or treated at your institution at some time during the year prior to the recent birth of her child. We ask your cooperation in answering the questions on the following pages, which relate to the medical care she received during the one-year period preceding childbirth. The exact dates covered by this period are shown below. Information is needed on each exposure to ionizing radiation this woman experienced during this period, irrespective of its relationship to pregnancy.

Since the survey is based on only a small sample of mothers, it is particularly important that we obtain full information on each. A postage-free envelope is enclosed for your convenience in replying. You may be assured that your report will be held in strictest confidence and used only for statistical research.

Your cooperation in this study is deeply appreciated.

Sincerely yours,

O. K. Sagen

O. K. Sagen, Ph.D., Chief
National Vital Statistics Division
National Center for Health Statistics

I

Name of Mother	Maiden Name	
Address	Place of Birth of Child	
City-State	Date of Birth	File Number
PERIOD COVERED BY THIS SURVEY: FROM		
TO		

SURVEY OF RADIOLOGICAL EXAMINATIONS

PART I. RADIOLOGICAL EXAMINATIONS OR TREATMENTS DURING ONE-YEAR PERIOD BEFORE CHILDBIRTH

To your knowledge, was the mother examined or treated by X-ray or fluoroscope at any time during the one-year period before childbirth as specified at the bottom of the preceding page?

- NO (Skip to Part II on last page)
- YES → How many radiological examinations or treatments did she receive during this one-year period?

_____ (number) (Complete section(s) below, then go on to last page)

- ▶ Complete a separate section below for EACH radiological examination or treatment performed during the ONE-YEAR PERIOD, whether or not related to pregnancy.
- ▶ If the SAME TYPE of procedure was performed MORE THAN ONCE, please report EACH SEPARATELY.
- ▶ If more than one procedure was performed on the SAME DATE, please report EACH SEPARATELY.
- ▶ In reporting NUMBER OF EXPOSURES, please include those which may have been technically unsatisfactory.
- ▶ If necessary, continue on a separate sheet.

SECTION 1. FIRST RADIOLOGICAL EXAMINATION OR TREATMENT DURING ONE-YEAR PERIOD

Date of examination or treatment? _____ (month) _____ (day) _____ (year)	1. Type of radiological equipment used? (check one) <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> DIAGNOSTIC RADIOGRAPHY</td> <td><input type="checkbox"/> DIAGNOSTIC FLUOROSCOPY</td> </tr> <tr> <td><input type="checkbox"/> DIAGNOSTIC PHOTOFLUOROGRAPHY</td> <td><input type="checkbox"/> X-RAY THERAPY</td> </tr> </table>	<input type="checkbox"/> DIAGNOSTIC RADIOGRAPHY	<input type="checkbox"/> DIAGNOSTIC FLUOROSCOPY	<input type="checkbox"/> DIAGNOSTIC PHOTOFLUOROGRAPHY	<input type="checkbox"/> X-RAY THERAPY							
<input type="checkbox"/> DIAGNOSTIC RADIOGRAPHY	<input type="checkbox"/> DIAGNOSTIC FLUOROSCOPY											
<input type="checkbox"/> DIAGNOSTIC PHOTOFLUOROGRAPHY	<input type="checkbox"/> X-RAY THERAPY											
	2. Primary area of body exposed? _____											
	3. Type of service rendered to mother? (check one) <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> PELVIMETRY</td> <td><input type="checkbox"/> INTRAVENOUS PYELOGRAM</td> </tr> <tr> <td><input type="checkbox"/> PLACENTOGRAPHY</td> <td><input type="checkbox"/> OTHER (specify) _____</td> </tr> <tr> <td><input type="checkbox"/> ROUTINE CHEST</td> <td></td> </tr> </table>	<input type="checkbox"/> PELVIMETRY	<input type="checkbox"/> INTRAVENOUS PYELOGRAM	<input type="checkbox"/> PLACENTOGRAPHY	<input type="checkbox"/> OTHER (specify) _____	<input type="checkbox"/> ROUTINE CHEST						
<input type="checkbox"/> PELVIMETRY	<input type="checkbox"/> INTRAVENOUS PYELOGRAM											
<input type="checkbox"/> PLACENTOGRAPHY	<input type="checkbox"/> OTHER (specify) _____											
<input type="checkbox"/> ROUTINE CHEST												
	4. Number of exposures? _____ (include those technically unsatisfactory) (number)											
	5. Place where examination or treatment was performed? <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> DONE AT THIS INSTITUTION</td> <td></td> </tr> <tr> <td>OR</td> <td>_____</td> </tr> <tr> <td></td> <td>Name of physician, hospital or clinic</td> </tr> <tr> <td></td> <td>Address</td> </tr> <tr> <td></td> <td>City-State</td> </tr> </table>	<input type="checkbox"/> DONE AT THIS INSTITUTION		OR	_____		Name of physician, hospital or clinic		Address		City-State	
<input type="checkbox"/> DONE AT THIS INSTITUTION												
OR	_____											
	Name of physician, hospital or clinic											
	Address											
	City-State											

SECTION 2. SECOND RADIOLOGICAL EXAMINATION OR TREATMENT DURING ONE-YEAR PERIOD

Date of examination or treatment? _____ (month) _____ (day) _____ (year)	1. Type of radiological equipment used? (check one)	<input type="checkbox"/> DIAGNOSTIC RADIOGRAPHY <input type="checkbox"/> DIAGNOSTIC PHOTOFLUOROGRAPHY	<input type="checkbox"/> DIAGNOSTIC FLUOROSCOPY <input type="checkbox"/> X-RAY THERAPY
	2. Primary area of body exposed?	_____	
	3. Type of service rendered to mother? (check one)	<input type="checkbox"/> PELVIMETRY <input type="checkbox"/> PLACENTOGRAPHY <input type="checkbox"/> ROUTINE CHEST	<input type="checkbox"/> INTRAVENOUS PYELOGRAM <input type="checkbox"/> OTHER (specify) _____
	4. Number of exposures?	_____ (include those technically unsatisfactory) (number)	
	5. Place where examination or treatment was performed?	<input type="checkbox"/> DONE AT THIS INSTITUTION OR Name of physician, hospital or clinic _____ Address _____ City-State _____	

SECTION 3. THIRD RADIOLOGICAL EXAMINATION OR TREATMENT DURING ONE-YEAR PERIOD

Date of examination or treatment? _____ (month) _____ (day) _____ (year)	1. Type of radiological equipment used? (check one)	<input type="checkbox"/> DIAGNOSTIC RADIOGRAPHY <input type="checkbox"/> DIAGNOSTIC PHOTOFLUOROGRAPHY	<input type="checkbox"/> DIAGNOSTIC FLUOROSCOPY <input type="checkbox"/> X-RAY THERAPY
	2. Primary area of body exposed?	_____	
	3. Type of service rendered to mother? (check one)	<input type="checkbox"/> PELVIMETRY <input type="checkbox"/> PLACENTOGRAPHY <input type="checkbox"/> ROUTINE CHEST	<input type="checkbox"/> INTRAVENOUS PYELOGRAM <input type="checkbox"/> OTHER (specify) _____
	4. Number of exposures?	_____ (include those technically unsatisfactory) (number)	
	5. Place where examination or treatment was performed?	<input type="checkbox"/> DONE AT THIS INSTITUTION OR Name of physician, hospital or clinic _____ Address _____ City-State _____	

SECTION 4. FOURTH RADIOLOGICAL EXAMINATION OR TREATMENT DURING ONE-YEAR PERIOD

Date of examination or treatment? _____ (month) _____ (day) _____ (year)	1. Type of radiological equipment used? (check one)	<input type="checkbox"/> DIAGNOSTIC RADIOGRAPHY <input type="checkbox"/> DIAGNOSTIC PHOTOFLUOROGRAPHY	<input type="checkbox"/> DIAGNOSTIC FLUOROSCOPY <input type="checkbox"/> X-RAY THERAPY
	2. Primary area of body exposed?	_____	
	3. Type of service rendered to mother? (check one)	<input type="checkbox"/> PELVIMETRY <input type="checkbox"/> PLACENTOGRAPHY <input type="checkbox"/> ROUTINE CHEST	<input type="checkbox"/> INTRAVENOUS PYELOGRAM <input type="checkbox"/> OTHER (specify) _____
	4. Number of exposures?	_____ (include those technically unsatisfactory) (number)	
	5. Place where examination or treatment was performed?	<input type="checkbox"/> DONE AT THIS INSTITUTION OR Name of physician, hospital or clinic _____ Address _____ City-State _____	

PART II. MEDICAL CARE RECEIVED BY MOTHER DURING ONE-YEAR PERIOD BEFORE CHILDBIRTH

1. How many times was the patient seen at your institution during the one-year period?
(If exact number not known, please give best estimate)

Number of times

--

2. On what date was she seen for the first time during the one-year period?

Month	Day	Year
		19_____

3. On what date was she seen for the last time during the one-year period?

Month	Day	Year
		19_____

4. If this patient was referred to your institution, please give names and addresses of referring hospitals, clinics or private physicians.

Name
Address
City-State

Name
Address
City-State

5. If your institution referred this patient to another hospital or clinic or to a private physician, please give names and addresses of physicians or institutions to which referred.

Name
Address
City-State

Name
Address
City-State

6. If this patient was seen or treated during the one-year period by any other hospital, clinic or physician not reported above or on the previous page, please give names and addresses.

Name
Address
City-State

Name
Address
City-State

(Name of person completing this form)

COMMENTS

Survey Questionnaire for Dentists



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

WASHINGTON 25, D. C.

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Your assistance is needed in a small but important sample survey conducted by the U. S. Public Health Service with the approval of your State Health Department. The primary purpose of this survey is to estimate how often mothers are exposed to ionizing radiation in the year preceding a birth. The survey will also provide useful data on the extent to which expectant mothers avail themselves of dental care. The mothers on whom data are being collected were identified from a random sample of about 4,000 births out of the 4 million occurring in the United States during 1963.

According to our records, the mother named below was seen or treated by you at some time during the year prior to the recent birth of her child. We ask your cooperation in answering the questions on the back of this letter, which relate to the dental care she received during the one-year period preceding childbirth. The exact dates covered by this period are shown below.

Since the survey is based on only a small sample of mothers, it is particularly important that we obtain full information on each. A postage-free envelope is enclosed for your convenience in replying. You may be assured that your report will be held in strictest confidence and used only for statistical research.

Your cooperation in this study is deeply appreciated.

Sincerely yours,

O. K. Sagen, Ph.D., Chief
National Vital Statistics Division
National Center for Health Statistics

D

Name of Mother	Maiden Name	
Address	Place of Birth of Child	
City-State	Date of Birth	File Number
PERIOD COVERED BY THIS SURVEY: FROM _____ TO _____		

SURVEY OF DENTAL X-RAY EXAMINATIONS

PART I. DENTAL X-RAY EXAMINATIONS DURING ONE-YEAR PERIOD BEFORE CHILDBIRTH

To your knowledge, did the patient receive any dental X-ray examinations during the one-year period before childbirth as specified at the bottom of the preceding page?

- NO (Skip to Part II below)
- YES → How many dental X-ray examinations did she receive during this one-year period?

(number)

- ▶ Complete a separate section below for EACH dental X-ray examination that the patient received during the ONE-YEAR PERIOD before the birth of her child.
- ▶ In reporting NUMBER OF EXPOSURES, include those which may have been technically unsatisfactory.
- ▶ If necessary, continue on a separate sheet.

Date of Examination	Type(s) of X-ray Exposures (check all that apply)	Number of Exposures
_____ (month-day-year)	<input type="checkbox"/> FULL MOUTH <input type="checkbox"/> BITE WING <input type="checkbox"/> OTHER → (specify type) _____	_____ (number)
_____ (month-day-year)	<input type="checkbox"/> FULL MOUTH <input type="checkbox"/> BITE WING <input type="checkbox"/> OTHER → (specify type) _____	_____ (number)
_____ (month-day-year)	<input type="checkbox"/> FULL MOUTH <input type="checkbox"/> BITE WING <input type="checkbox"/> OTHER → (specify type) _____	_____ (number)

PART II. DENTAL CARE RECEIVED BY MOTHER DURING ONE-YEAR PERIOD BEFORE CHILDBIRTH

<p>1. About how many times did you see the patient during the one-year period?</p> <div style="border: 1px solid black; width: 100px; height: 20px; margin-left: 100px; text-align: center;">Number of times</div> <p>2. When did you see her for the first time during the one-year period?</p> <table border="1" style="margin-left: 100px; border-collapse: collapse;"> <tr> <th style="width: 30%;">Month</th> <th style="width: 30%;">Day</th> <th style="width: 40%;">Year</th> </tr> <tr> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="text-align: right;">19____</td> </tr> </table> <p>3. When did you see her for the last time during the one-year period?</p> <table border="1" style="margin-left: 100px; border-collapse: collapse;"> <tr> <th style="width: 30%;">Month</th> <th style="width: 30%;">Day</th> <th style="width: 40%;">Year</th> </tr> <tr> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="text-align: right;">19____</td> </tr> </table>	Month	Day	Year			19____	Month	Day	Year			19____	<p>4. If the patient was seen by another dentist or dental clinic during the one-year period, please give names and addresses below.</p> <div style="border: 1px solid black; margin-bottom: 10px;"> <p>Name _____</p> <p>Address _____</p> <p>City-State _____</p> </div> <div style="border: 1px solid black;"> <p>Name _____</p> <p>Address _____</p> <p>City-State _____</p> </div>
Month	Day	Year											
		19____											
Month	Day	Year											
		19____											

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(Name of person completing this form)

COMMENTS:

OUTLINE OF REPORT SERIES FOR VITAL AND HEALTH STATISTICS

Public Health Service Publication No. 1000

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Washington, D.C. 20201