Chapter 3 - Pregnancy

Chapter 3 focuses on childbearing, including planning for pregnancy, fertility, abortion, and birth rates, pregnancy spacing, conditions during pregnancy, and access to health care. This chapter also discusses how prenatal care, nutrition, weight gain, harmful substances, and health insurance coverage affect a pregnancy. Although Chapter 3 is about pregnancy, it begins with a discussion of infertility to acknowledge that some women who desire to become pregnant are unable to do so.

Infertility

Although data on infertility (inability to produce a live offspring) are not available for Utah, national data indicate that over the past three decades infertility rates among married women have remained low and relatively constant.[1] The 1988 National Survey of Family Growth reported that about 2.3 million U.S. married women aged 15 - 44 years, or one in twelve, could not conceive a pregnancy after 12 months or more of sexual intercourse without contraception.[1] During 1988, 4.9 million women, or one in 12 females (regardless of marital status) aged 15 - 44 years, were unable to attain a pregnancy because of biological impairment (impaired fecundity).[1] Advancing age and parity (number of previous live births) increase a woman's risk of infertility or impaired fecundity. Some known causes of infertility include decreasing ovarian function with age and pelvic inflammatory disease (PID) due to sexually transmitted infections such as chlamydia and gonorrhea.[1] Several studies indicate a possible link between cigarette smoking and an increased risk of infertility.[2,3,4]

The trend during the past 30 years of delaying marriage and childbearing has resulted in an increase in the numbers of couples trying to conceive their first child at an older age when ovarian function is declining. Between 1965 and 1988, the proportion of infertile couples trying to have a first birth increased from one in six to one in two in the United States. From 1968 to 1991, visits to physicians for infertility increased from 600,000 to 1.7 million. While infertility is not necessarily related to the following factors, women seeking infertility services are more likely than those who did not seek assistance to be non-Hispanic White, with a college education, of a higher-status occupation, married, never having been pregnant, and older than 30 years of age.

Ovulation drug treatment was the most common specialized treatment received.[1] Ovulation drug treatment may result in pregnancies with multiple fetuses (twins, triplets, etc.), with an incidence reported as ranging between 1 - 30% depending on drugs used. A pregnancy with multiple fetuses increases the risk of low birth weight and preterm delivery.[5] Chapter 4 discusses the implications of this problem in more detail. A study in Australia and New Zealand showed the preterm birth rate among pregnancies conceived with assisted reproductive technologies (ART) to be 27% overall and 15% for singleton

(one fetus) pregnancies.[6] Infertility may result in strained family relationships and loss of personal self-esteem with accompanying depression as individuals attempt to deal with their particular situation, especially if pregnancy is unlikely.

Family Planning

Family planning enables women of childbearing age and their partners to limit their number of children to their desired family size, to control the timing of a pregnancy, and to prevent unintended pregnancy. Planning for a family may play an important role in the health and well-being of the mother, infant and family. Spacing of pregnancies closer than three months between delivery of one child and conception of a subsequent pregnancy may cause poorer pregnancy outcomes.

Approximately 60% of U.S. women of childbearing age reported current use of contraception. Of these, 61% used reversible contraception, and 39% have been permanently sterilized (either the woman or her partner).[7] The chance of becoming pregnant when not intending to ranges from about 0.1% for Norplant implants to 85% for sexually active couples who do not use any contraceptive method (Table 3.1).[5]

Table 3.1 Contraceptive Failure Rates* During First Year of Use by Typical Couples

Method	Percentage of Women Experiencing an Unintended Pregnancy During the First Year of Method Use
Chance (no contraceptive method)	85.0%
Cervical cap - for women who have given birth	36.0%
Spermicides	21.0%
Female condom	21.0%
Periodic abstinence	20.0%
Withdrawal	19.0%
Cervical cap - for women who have not given birth	18.0%
Diaphragm with spermicidal cream or jelly	18.0%
Male condom	12.0%
Intrauterine device (IUD)	0.1-2.0%
Pill - Progestogen only*	0.5%
Female sterilization	0.4%
Depo-Provera injections	0.3%
Male sterilization	0.2%
Pill - Combined*	0.1%
Norplant implants (6 capsules)	0.1%

* Pill (female oral contraceptives) rates assume perfect use; other methods listed assume typical use.
Source: Guidelines for Women's Health Care, The American College of Obstetricians and Gynecologists

According to national data from Title X (federal funded family planning) clinics, the most frequently chosen method for family planning in 1991 was oral contraceptives (70%), followed by male condoms only (6%), and the combination of condoms and foam (5%).[8] Most clients (59%) had no previous live births and a few (8%) experienced more than two live births. Almost 20% of family planning clients 15 to 19 years of age experienced one or more live births. Most clients served by these clinics had incomes at or below 150% of the federal poverty level; almost two thirds of the clients (65%) were at or below 100% of the poverty level.[8]

In Utah, family planning services are available from several sources: community and private providers, Title X clinics (Planned Parenthood Association of Utah), and city and county health departments. Title X and local health department family planning clinics serve more than 30,000 women each year, with increasing numbers of women who do not have health insurance. In Utah, more than 68% of clients served through the state's Title X agency in 1995 were below 100% of the federal poverty level. Clients served through Utah Title X and local health department clinics vary in age and racial/ethnic groups (Table 3.2). Utah law requires parental consent for minors to obtain contraception information and services from local health departments in Utah.

Table 3.2 Distribution of Family Planning Clinics' Clients by Age and Race/Ethnicity United States, 1991 and Utah, 1995

Factor	Utah Title X Clinics	Utah Local Health Department Clinics	U.S. TitleX Clinics
Age			
Under 18 Years	19.3%	8.0%	13.8%
18-19 Years	20.1%	12.9%	15.0%
20 Years and Older	60.6%	73.6%	71.1%
Unknown Age	0.0%	5.4%	0.1%
Race/Ethnicity			
White (non-Hispanic)		73.2%	61.9%
Black (non-Hispanic)		0.8%	17.3%
Asian/Pacific Islander		1.8%	1.2%
Native American/AK Native		0.7%	0.5%
Other Race		1.9%	2.4%
Hispanic (any race)		17.1%	14.9%
Unknown race/ethnicity		4.5%	1.8%

Sources: U.S. Surveillance of Family Planning Services at Title X Clinics and Characteristics of Women Receiving These Services 1991, CDC MMWR, Vol, 44/No, SS-2, 1995. Utah Title X: Planned Parenthood Association of Utah (PPAU) 1995 Family Planning Annual Reports for Region VIII . Utah Local Health Department: Maternal and Child Health Service Reports for State FY 1995, Division of Community and Family Health Services, Utah Department of Health

Data reported in a recent national study indicated that any method of family planning is more effective and less costly than no method.[9] Pregnancies avoided (defined as the difference between the number of pregnancies expected to occur if no method was used and the number expected to occur with each particular method) were calculated for each method. Direct medical costs were also calculated for each method, including the costs, benefits, and adverse side effects of contraception, and the costs of unintended pregnancies. The results of the study included:

- The most cost-effective methods are the copper-T (IUD), vasectomy, the hormonal contraceptive implant (Norplant), and the injectable contraceptive (Depo-Provera). Each method is capable of saving at least $13,300 and preventing at least 4.2 potential pregnancies over a five-year period.
- Oral contraceptives prevented an average of 4.1 potential pregnancies, with a cost savings of approximately $12,800 over a five-year period.
- Other methods, such as barrier methods, spermicides, withdrawal, and periodic abstinence, have high failure rates and therefore were costly, but still saved at least $8,900 over a five- year period.[9]

Unintended Pregnancies

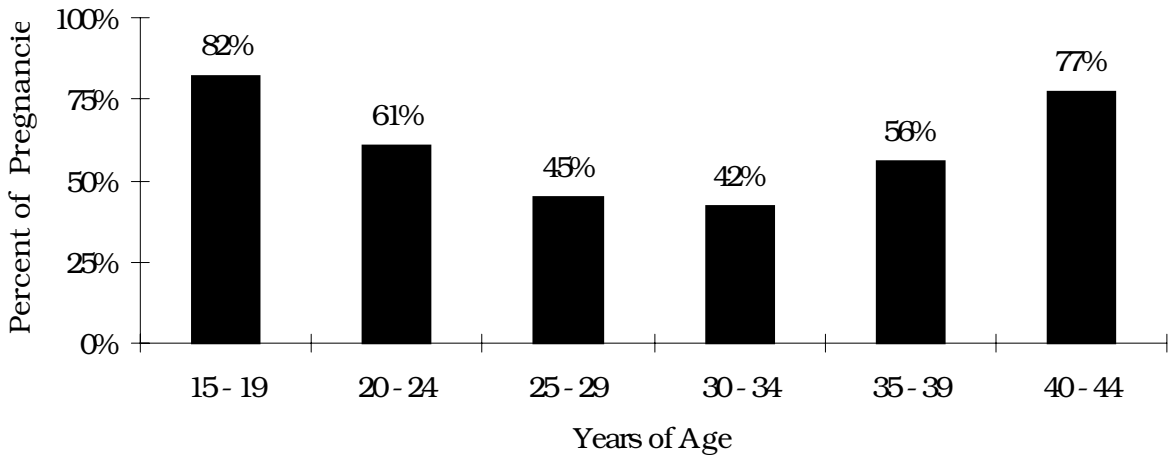
Unintended pregnancy includes pregnancies that are mistimed (unplanned, but desired) and unwanted (unplanned and not desired). Compared to intended pregnancies, unintended pregnancies are more likely to result in abortion, poor pregnancy outcomes, and insufficient participation in prenatal care. National data indicate that 57% of all pregnancies in 1987 were unintended at the time of conception. Of these, 51% ended in abortion, while the remainder resulted in a live birth. During the years 1982 through 1987 (the most current available data), the proportion of births in the United States resulting from unintended pregnancies has been increasing, with a slight decrease in abortion numbers.[7]

Unintended pregnancies occur among women of all ages. However, the highest percentages of unintended pregnancies occurred among women under 20 and over 39 years of age (Figure 3.1). Women who were more likely to have an unintended pregnancy included those who:

- were unmarried;
- were in early or late range of their childbearing years;
- lived in poverty; or
- were Black.

The authors speculated that there may be smaller subgroups who were at much higher risk, such as women who were homeless, teens who had dropped out of school, and women who abused chemical substances. In comparing unintended pregnancies nationally among White and Black women, mistimed pregnancies were more likely to be reported by White women, while a higher percentage of Black women reported unwanted pregnancies.[7] Of all unintended pregnancies, 47% occurred to women using reversible contraception, while 53% occurred among women using no contraception.[7]

Figure 3.1 Percentage of All Pregnancies That Were Unintended by Age of Mother: United States, 1987



Source: The Best Intentions: Unintended Pregnancy and the Well-Being of Children and Families, Institute of Medicine, 1995, Table 2-2, p. 32

Utah data on unplanned pregnancy are limited to women enrolled in W.I.C. (Women, Infants and Children Supplemental Feeding Program) services. A one-day sample of 16,635 women enrolled in Utah's WIC services in early 1997 revealed that approximately 54% reported that their pregnancies were unplanned (Table 3.3).

Compared to WIC clients who reported planned pregnancies, WIC clients who reported unplanned pregnancies in Utah were more likely to:

- have less education;
- be unmarried; or
- enter prenatal care later.

It has been estimated that 202,000 Utah women are at risk for unintended pregnancy, and that almost 80,000 Utah women between the ages of 20-44 years are in need of publicly funded contraceptive services.[10] In Utah, publicly funded contraceptive services are available to approximately 30,000 women, leaving almost 50,000 women each year without access to these services.[10]

Table 3.3 Comparison of Factors Among Women Enrolled in WIC Services Planned Versus Unplanned Pregnancy: Utah, 1997

Factor	Number of WIC Clients	Planned Pregnancy	Unplanned Pregnancy
	16,635	46%	54%
Marital Status			
Single	5,964	21%	79%
Married	10,594	60%	40%
Educational Achievement			
Less than High School	5,220	33%	67%
High School Graduate	5,767	44%	56%
Some College	4,285	56%	44%
College Graduate	1,363	71%	29%
Race/Ethnicity			
White (non-Hispanic)	12,341	46%	54%
Black	168	33%	67%
Asian/SE Asian Refugee	266	53%	47%
American Indian	63	32%	68%
Other Races	79	48%	52%
Hispanic (Any Race)	2,877	47%	53%
Age of Pregnant Woman			
Under 15 Years	40	7%	93%
15-17 Years	985	13%	87%
18-19 Years	2,047	22%	78%
20-29 Years	10,493	52%	48%
30-39 Years	2,878	54%	46%
40 Years or Older	191	43%	57%
Entry Into Prenatal Care			
First Trimester	10,394	49%	51%
Second Trimester	1,412	34%	66%
Third Trimester	151	36%	64%

* The total number of cases vary due to missing/unknown categories. These data are a one-day sample (early 1997) of Utah women who are WIC clients. These data do not represent all WIC clients in Utah.
Source: WIC Database, Utah Department of Health

Pregnancy Spacing

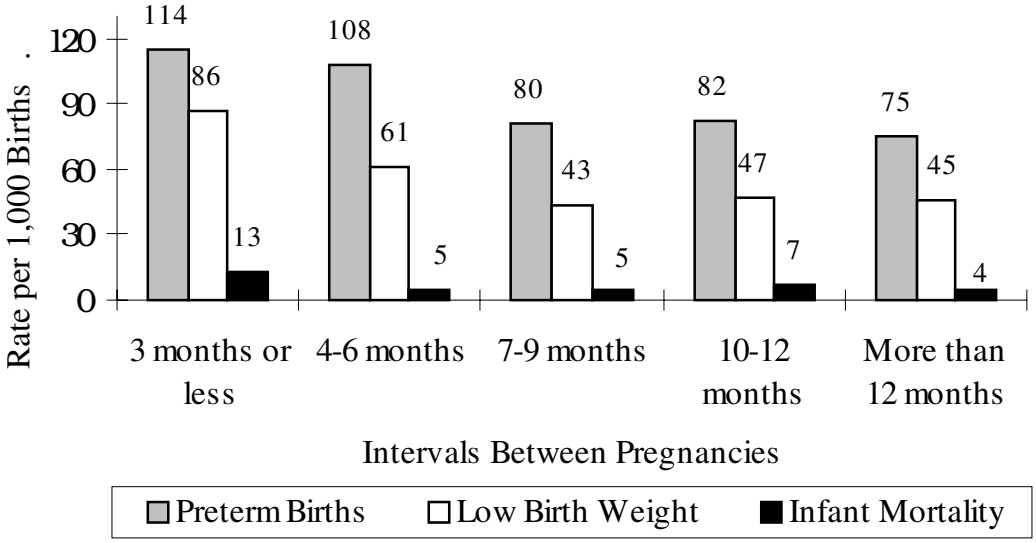
Close spacing between pregnancies can contribute to poor pregnancy outcomes, such as low birth weight and infant death. Close pregnancy spacing is generally defined as a pregnancy conceived within 12 months of delivery of a previous infant.

A recent study reported that short intergestational periods resulted in increased rates of low birth weight and preterm births.[11] Utah data for 1992-1995 indicate similar results (Figure 3.2). Utah data demonstrated that infants who were conceived within three months of an older sibling's birth had a higher incidence of low birth weight, preterm birth and infant mortality compared with those who were conceived more than 12 months after an older sibling's birth. Groups more likely to have closely spaced pregnancies in Utah included women who:

- were unmarried;
- were non-white or Hispanic;
- used tobacco during pregnancy;
- had inadequate number of prenatal care visits.[12]
- had less than a high school education;
- had inadequate weight gain during pregnancy
- entered prenatal care after the first trimester; or

Reducing the number of pregnancies with short intergestational periods of three months or less can contribute to healthier outcomes for mother and infant, strengthen the parent-child relationship, and enhance a young child's development.

Figure 3.2 Ratio of Live Born Infants* With Low Birth Weight, Prematurity, or Who Died Within the First Year of Life by Interval Between Pregnancies: Utah, 1992-1995



*Only second or later live born infants of a mother were included in this study. Low birth weight was defined as infants weighing less than 2,500 grams. Preterm births were defined as those infants who were <37 weeks of gestation. Interval between pregnancies is the time from one live birth to the estimated date of conception of the pregnancy resulting in the next live born infant.

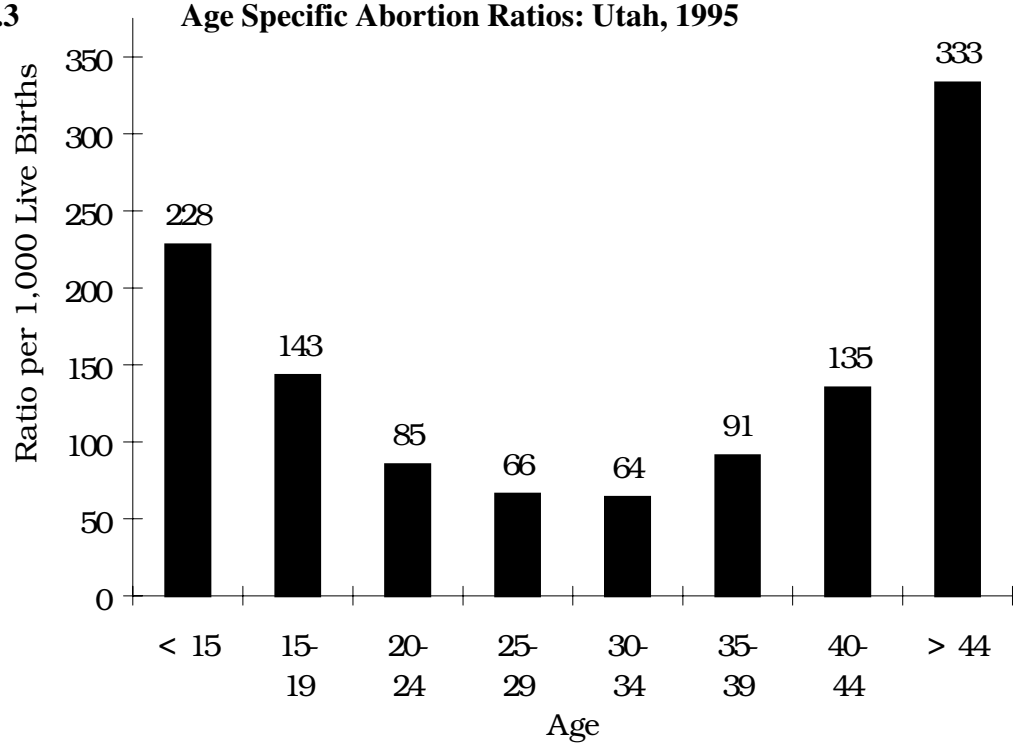
Source: Bureau of Vital Records, Utah Department of Health

Abortion

Nationally, the abortion number and rate have remained relatively stable since 1980, with some small year-to-year variations. In 1997, the Centers for Disease Control and Prevention (CDC) published an abortion surveillance report comparing individual state data with national data for 1993 and 1994. In Utah in 1994, 3,304 legal abortions were performed for a rate of 7.4 per 1000 women aged 15-44 years, a ratio of 86.3 abortions per 1,000 live births. Utah's abortion rate and ratio in 1994 were reported as much lower than the national rate of 21.0 and ratio of 321.[13,14] (In 1995 in Utah, the number of abortions dropped to 3,292, the abortion rate declined to 7.1 per 1,000 women aged 15-44 years, and the abortion ratio dropped to 83.2 per 1,000 live births.)[12] An increasing number of pregnant women are choosing to continue their pregnancies to term rather than choosing abortion.[13,14]

The majority of Utah abortions (55%) in 1995 occurred among women between the ages of 20 and 29. The highest percentage of abortions in a single age group in Utah in 1995 was among women between the ages of 20-24 years, reflecting the age at which the greatest percentage of pregnancies occur. The abortion ratio by age groups (Figure 3.3) reflects that women who are oldest (older than 44 years) and women who are youngest (under 15 years) have the highest number of abortions per 1,000 women in their age group. The age trend of Utah women obtaining abortions follows the national trend.

Figure 3.3 Age Specific Abortion Ratios: Utah, 1995



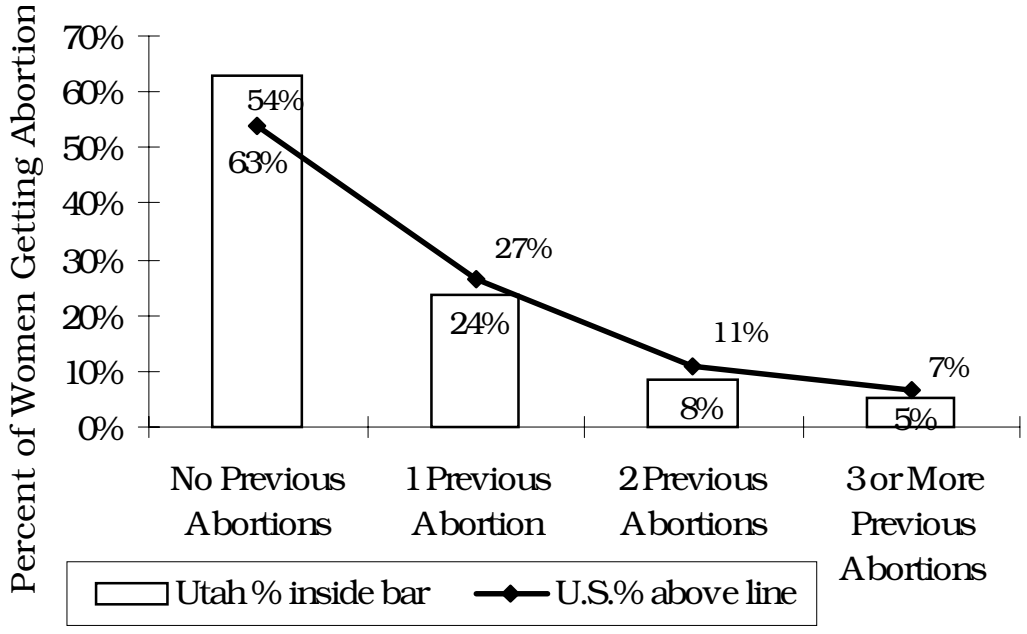
Source: Bureau of Vital Records, Utah Department of Health

Of women obtaining abortions in Utah in 1995, 83% were White, 2% Black, 3.6% were of other races, with the remaining percentage of women being of unknown race.[14]

Utah women generally seek abortions earlier in pregnancy compared with women nationally. In Utah in 1994, 33% of women obtained abortions before 7 weeks of pregnancy compared with 14.4% nationally. In Utah, 65% of all abortions were performed before the ninth week of pregnancy compared to 52.6% nationally.[14] Of Utah women obtaining abortions in 1994, almost half (47%) had had no previous children. Compared to women nationally who obtained abortions in 1992, a higher percentage of Utah women were having their first abortion, and a smaller percentage of Utah women reported they had had one or more previous abortions (Figure 3.4).

Current Utah law requires that each woman seeking an abortion is offered informed consent materials which include a state-produced booklet and video.

Figure 3.4 Percentage Who Experienced Previous Induced Abortion Among Women Obtaining Abortion: Utah and U.S., 1994



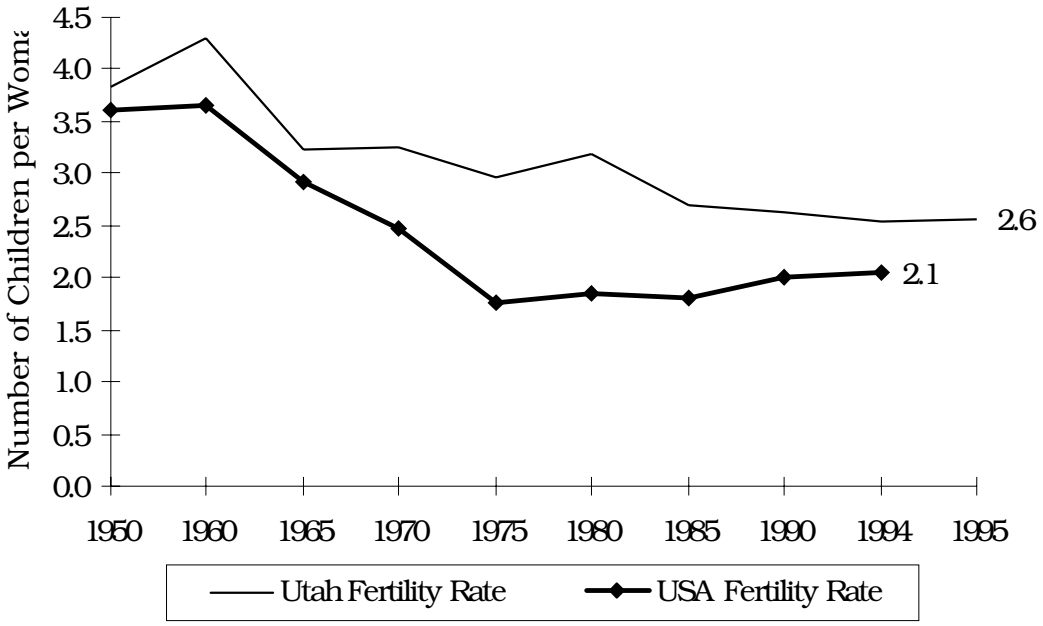
Source: U.S.: Abortion Surveillance - United States, 1993 and 1994. Morbidity and Mortality Weekly Report . 1997. 46:SS-U.S. Department of Health and Human Services Utah: Bureau of Vital Records, Utah Department of Health

Fertility

Fertility Rates

Since 1950, Utah's fertility rate has been higher than the national rate. Utah ranked first among states in the nation with a general fertility rate (the number of live births per 1000 women 15 - 44 years of age) of 85.9 for the period 1950 through 1994. Total fertility rate is a more precise measure of fertility that estimates the number of children a woman will have in her lifetime. The 1995 Utah total fertility rate of 2.6 is also higher than the national rate of 2.1 (1994) (Figure 3.5).

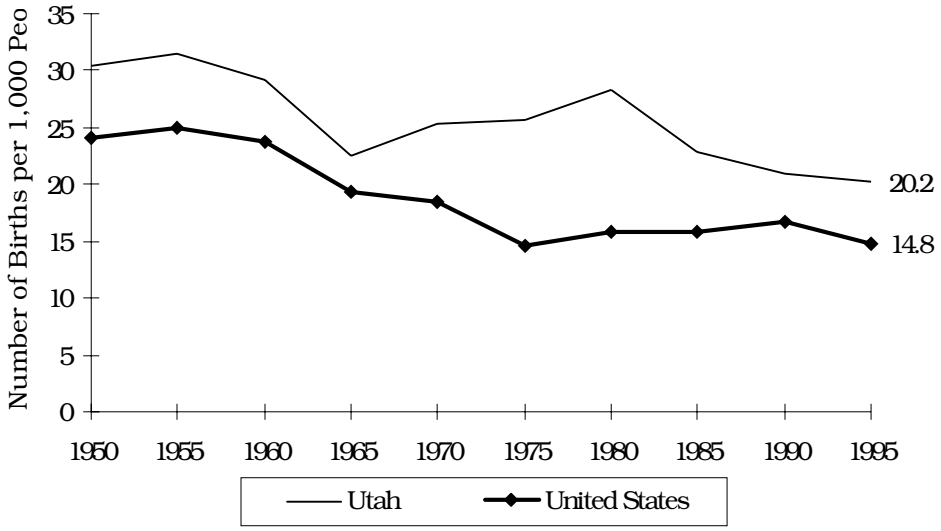
Figure 3.5 Total Fertility Rates for Females of All Races Ages 15-44 Years of Age Utah and United States, 1950-1995*



*U.S. data were not available for 1995.
Sources: U.S.: CDC, Monthly Vital Statistics Report, Vol 44, No. 3 9/21/1995, Statistical Abstract of the United States, 1953.
Utah: Bureau of Vital Records, Utah Department of Health and Issues of Fertility in Utah, 1989, Utah Governor's Office of Planning and Budget

Historically, Utah's crude birth rate (number of births per 1,000 population in a given year) has been among the highest in the nation. In 1995, Utah's birth rate of 20.2 was the highest among all states and compared with the national rate of 14.8 (Figure 3.6). Other states with high birth rates in 1995 were California (17.8), Texas (17.5), Arizona (17.2) and Alaska (17.0 per 1,000 people).[15]

Figure 3.6 Crude Birth Rates: Utah and United States, 1950-1995

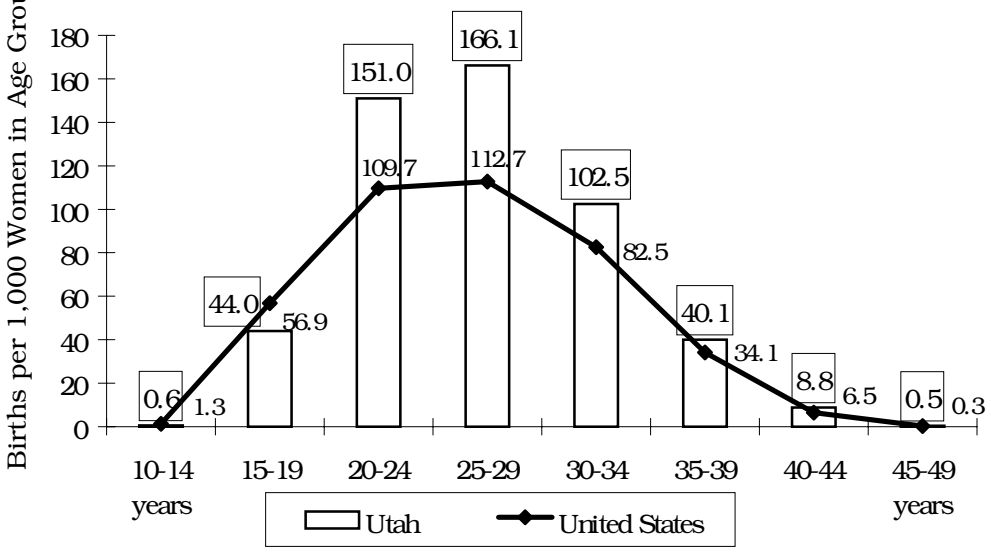


Sources: U.S.: National Center for Health Statistics, "Births and Deaths: United States, 1995" Monthly Vital Statistics Report, 45, 3(S)2, October 4, 1996. Utah: Bureau of Vital Records, Utah Department of Health

Age Specific Birth Rates

The pattern of age-specific birth rates (number of births to women of a given age group, per 1,000 women in that age group) for Utah is similar to that of the nation, although Utah women give birth at somewhat younger ages than women in the U.S. as a whole (Figure 3.7). This finding may be related to the fact that Utah women tend to marry younger than women who live elsewhere in the U. S.

Figure 3.7 Age-Specific Birth Rates: Utah and United States, 1995



Sources: U.S.: Monthly Vital Statistics Report, Births and Deaths in the U.S. 1995, Vol 45 No. 3 (2) October 4, 1996; population estimates by U.S. Census Bureau P25-1130 Utah: Bureau of Vital Records, Utah Department of Health; population estimates by Utah Governor's Office of Planning and Budget

Characteristics of Utah Women Giving Birth

In 1995, there were 39,556 births to women residing in Utah. Of these, 94.7% were to White women, 1.5% to Native American women, 0.6% to Black women and 3% to women of other races. During this same year, 7.9% of all births in Utah were to women who reported they were of Hispanic origin.[14] Of Utah women giving birth in 1995, 13.3% of women had less than a high school education, 31.9% were high school graduates, and 53.4% had attended one or more years of college. In 1995, 6,216 births were to unmarried women accounting for 15.7% of all live births. Births to unmarried women in Utah have increased from 4.5% in 1970 to 15.7% in 1995, a trend that follows national statistics.[16]

Prenatal Care

The Healthy People 2000 Goal is to have 90% of all pregnant women enter prenatal care in the first trimester. The percentage of Utah women who give birth to a live born infant and enter prenatal care in the first trimester (first three months of pregnancy) has gradually increased over the past decade from 80% in 1985 to 85% in 1995.[16] In 1995 compared with 50 states and the District of Columbia, a higher percentage of White Utahns got early prenatal care than Utahns of Color (Table 3.4).[15,16]

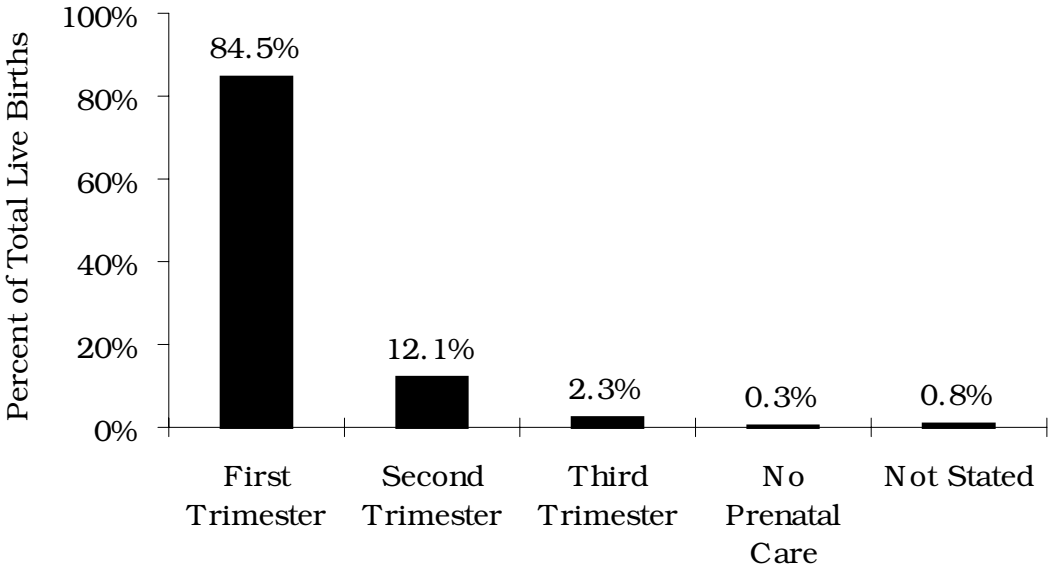
Table 3.4 Percent of Infants Born to Women Who Started Prenatal Care Early by Race/Ethnicity: Selected States, Utah and U.S., 1995

Race/Ethnicity	Best State 1995	Utah 1995	Worst State 1995	United States 1995
All Races	N. Hampshire 89.9%	(14th) 84.3%	Wash. D.C. 59.1%	81.2%
White (non-Hispanic)	Maryland 92.4%	(28th) 85.9%	N. Mexico 71.6%	83.5%
Black (non-Hispanic)	Hawaii 91.9%	(50th) 59.8%	Wash. D.C. 56.2%	70.3%
Native American	NA	57.0%	NA	NA
Other Races	NA	70.0%	NA	NA
Hispanic (Any Race)	Vermont 87.5%	(37th) 66.4%	Wash. D.C. 53.8%	70.4%

Sources: States/USA : National Center for Health Statistics, Monthly Vital Statistics Report, Vol 45, No. 3(S) 2, 10/4/1996
Utah : Bureau of Vital Records, Utah Department of Health

In 1994, Utah tied for ninth lowest (best) for late or no prenatal care with 2.8% of women giving birth to a live born infant reporting late (last trimester entry) or no prenatal care.[15] Utah vital records data for the years of 1992-1995 indicate similar results (Figure 3.8).

Figure 3.8 Timing of Entry into Prenatal Care for Mothers: Utah, 1992-1995



Source: Bureau of Vital Records, Utah Department of Health

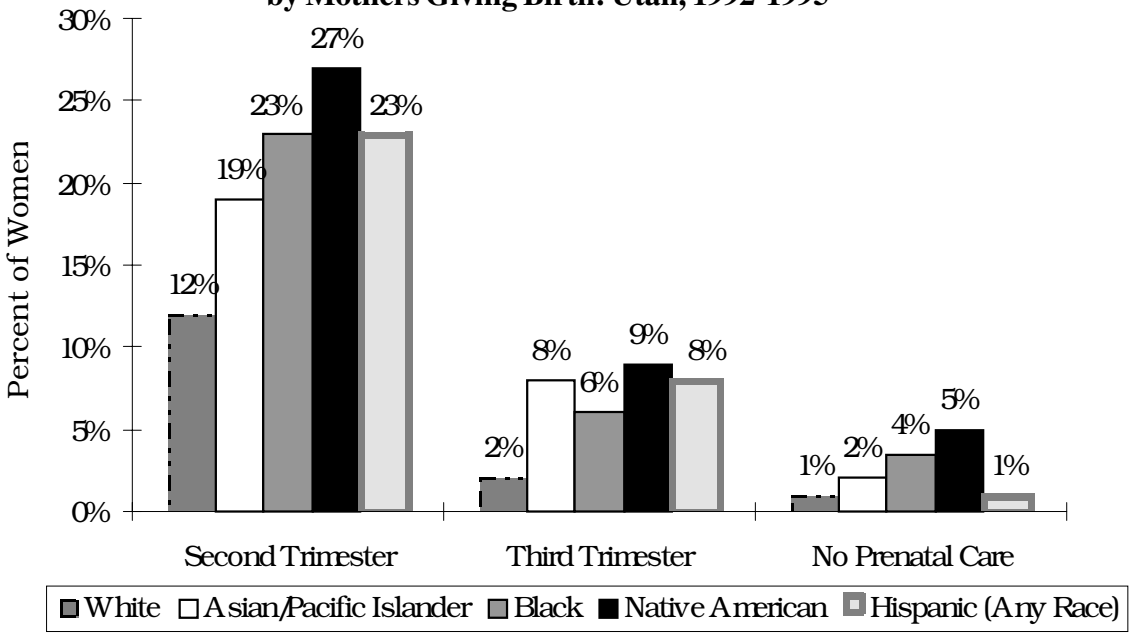
Women of Color and Hispanic women are less likely to receive early prenatal care and more likely to receive no prenatal care than White women in Utah (Figure 3.9). Hispanic women are also overrepresented among women who received no prenatal care during their pregnancies. Although only 7.4% of Utah women who gave birth to live born infants during 1992-1995 reported that they were of Hispanic origin, 21% of all women who did not receive prenatal care were of Hispanic origin. Hispanic women may be members of any race.

Adequacy of Prenatal Care

Utah birth certificate data for 1992-1995 showed that 61% of mothers had adequate prenatal care. Adequate care was defined as entry sometime before the fourth month of pregnancy and at least 11 visits for women giving birth to infants with gestational ages of 38 weeks or more. Women who gave birth before 38 weeks of gestation had adequate care if they began prenatal care by the fourth month and had at least 8 visits.[16]

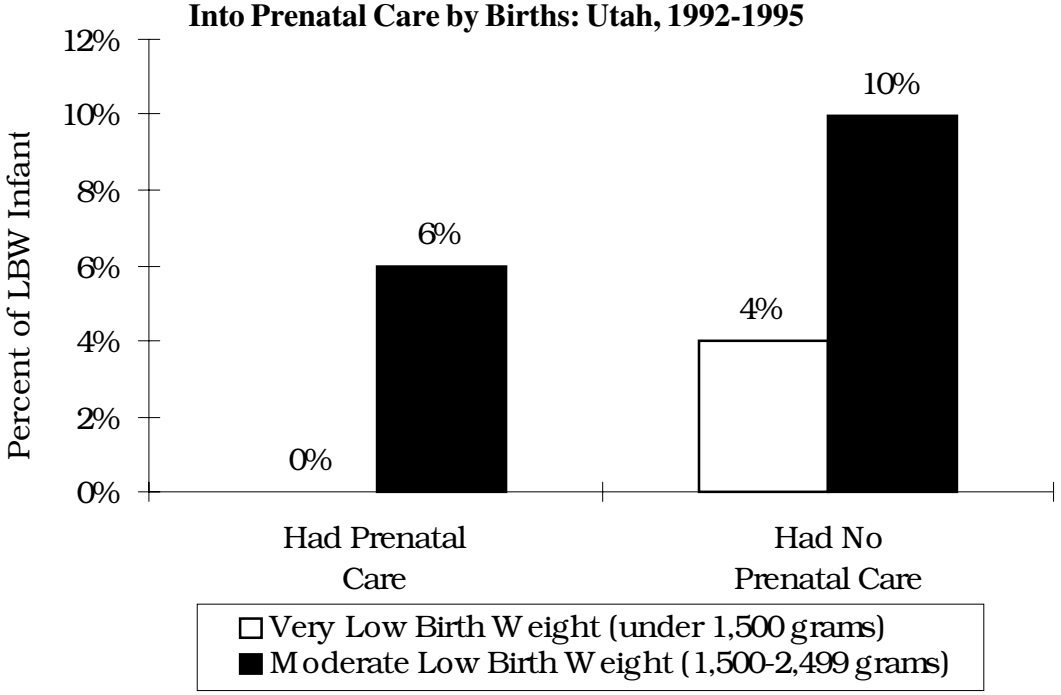
Pregnancy outcomes for women who did not receive prenatal care were significantly poorer than those for women who received prenatal care. The incidence of low birth weight and very low birth weight were significantly higher among women who did not seek or were unable to access prenatal care (Figure 3.10). Of women who did not obtain prenatal care, 14% delivered a low birth weight or very low birth weight infant, compared to 6% among women who received prenatal care.[16]

Figure 3.9 Time of Entry into Prenatal Care by Race/Ethnicity by Mothers Giving Birth: Utah, 1992-1995



Note: Women of Spanish origin may belong to any race. Race data include Hispanic women: Columns are not mutually exclusive. Columns do not add up to 100% because women who started prenatal care during their first trimester are not displayed. (See Table 3.4 and Figure 3.7) Source: Bureau of Vital Records, Utah Department of Health

Figure 3.10 Low Birth Weight Infants by Time of Mother's Entry Into Prenatal Care by Births: Utah, 1992-1995



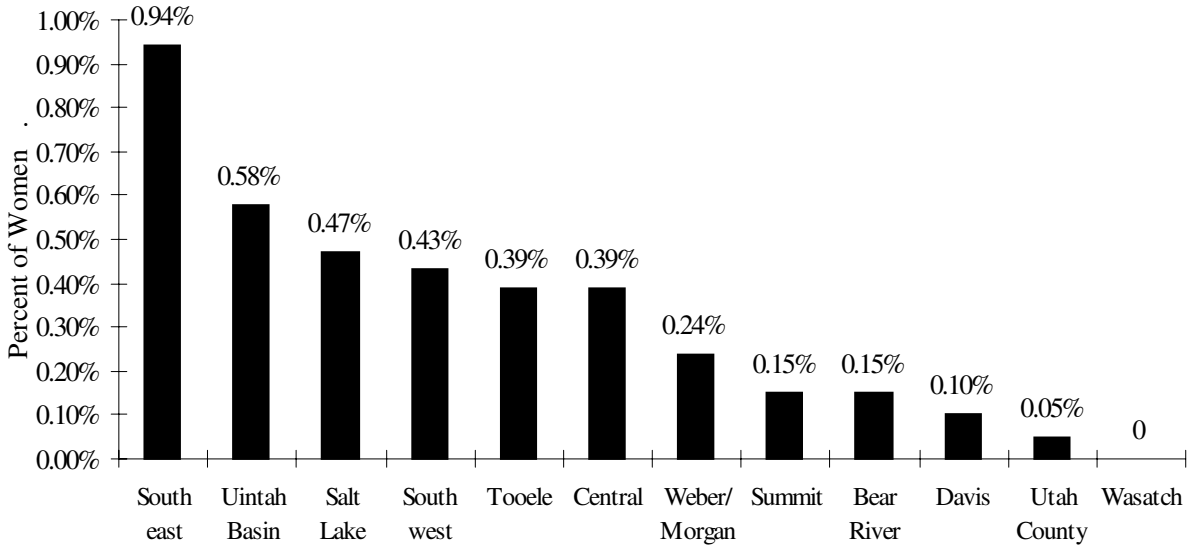
Source: Bureau of Vital Record, Utah Department of Health

The finding of poorer outcomes among women who received no prenatal care probably reflects a high risk group of women who do not access prenatal care for many reasons. Further study of this group is needed to develop interventions that effectively have an impact on pregnancy outcomes among these women.

Women less likely to receive any prenatal care in Utah (Figure 3.11) included those who were:

- between the ages of 15 and 17;
- unmarried;
- of racial and ethnic minority populations;
- educated less than high school;
- reporting use of tobacco or alcohol during pregnancy; or
- living in rural communities.

Figure 3.11 Mothers Who Received No Prenatal Care by Local Health District Utah, 1992-1995



Source: Bureau of Vital Records, Utah Department of Health

Interventions to improve prenatal care access need to be targeted to those areas of the state with higher percentages of women not entering prenatal care. Factors that influence these rates may include access issues of geographic distance, available providers, or financial barriers; as well as cultural beliefs and practices, and personal choice.

Nutrition During Pregnancy

Information about the nutritional status of Utah pregnant women is available from the WIC Program. Women eligible for WIC services are those whose income levels are at or below 185% of the poverty level and who are pregnant or postpartum with continuing breastfeeding. The Utah WIC program participated in the CDC Pregnancy Nutritional Surveillance System (PNSS) along with about 27 other U.S. states, territories or other geographic areas.

Prenatal weight gain is strongly associated with birth outcomes. A Healthy People 2000 goal is that 85% of pregnant women gain the recommended amount of weight during their pregnancies. WIC clients' prepregnancy weight status showed that 18% of clients were underweight and 29% were overweight. In examining weight gain during pregnancy, 43% of Utah WIC enrollees had ideal weight gain during their pregnancies, while 27% had less than ideal weight gains and 31% had greater than ideal weight gains. In 1994, of the 13,798 women enrolled in the Utah WIC program, 7% of the prenatal clients and 16% of the postpartum clients had low hematocrits, a measure of iron deficiency anemia. The low birth weight incidence for the total population of Utah mothers enrolled in WIC in 1994 was 6.1% compared to the state rate of 5.9%.

Drug Use During Pregnancy - Tobacco, Alcohol, and Other Drugs

Substance use in pregnancy may include alcohol, tobacco, and other drugs, ranging from over-the-counter drugs, prescribed drugs, to illicit substances, such as marijuana, cocaine and heroin. Although substance use does not necessarily constitute abuse, use of tobacco, alcohol or other drugs during pregnancy can contribute to health problems for a pregnant woman and fetus. However, any affect depends on the substance used, the timing of use during pregnancy, and the amount used. Some substances used during pregnancy have no known or documented effects on the fetus, while others may significantly affect the fetus. Prenatal substance use may be associated with delayed entry into prenatal care and a lack of continuous prenatal care.

Of Utah women delivering a live born infant in 1995, 9.3% reported use of tobacco and 1.7% reported alcohol use during their pregnancies.[12]

In a recent prevalence study of women in Utah, approximately 8% of women studied in 10 urban and suburban hospitals had positive toxicology screenings (positive urine drug test) at the time of delivery.[16] Substances included alcohol, over-the-counter amphetamines, marijuana, cocaine, and illicit amphetamines in order of frequency of detection. Opiates were not included in study results because tests were administered anonymously, thus preventing distinction between illicit opiate use and prescribed opiate administration during the labor and delivery period. Cocaine positive and marijuana positive women were more likely to be non-white or Hispanic and to have no insurance or Medicaid

compared to women who tested negative for these substances. Women on Medicaid or with no insurance were four times more likely to test positive for illicit substances than were women with private insurance.

In a second prevalence study of Utah prenatal clients from both private practice and public clinics, almost 10% of women tested positive for one or more substances.[17] In this study, alcohol was the most frequently identified substance, followed by marijuana, opiates, cocaine, and amphetamines. A similar percentage of women in private clinics tested positive compared with women in public clinics (10.0% versus 9.6%). In the private group, the most frequently detected substance was alcohol, while in the public group, the most frequently detected substance was marijuana.

In a recent study of infants born to Utah women in a regional perinatal center, positive toxicology results were noted in 13% of the study population, with marijuana, opiates and cocaine being detected in decreasing order of frequency.[18] Compared with women whose babies tested negative, women whose babies tested positive were more likely to have:

- Medicaid or no insurance;
- three or fewer prenatal care visits; or
- reported prenatal history of tobacco, alcohol, or social drug use.

Although substance use occurs at lower rates than those found in other more densely populated states, these studies indicate that substance use during pregnancy is a concern in Utah. Because substance use crosses all social classes, providers caring for pregnant women need to incorporate universal substance use history taking and selective urine drug screening into routine prenatal care practice to identify women who can benefit from referral to substance abuse services and treatment. There continues to be a need for educational campaigns to inform the public about the harm various substances have during pregnancy.

Health Care Access

Geographic Access Issues

Access to prenatal health care varies depending on the geographic area of the state. There are areas in Utah with high ratios of women of childbearing age to providers, resulting in limited access to a prenatal provider in their geographic area (Figure 3.12). Four rural counties (Daggett, Piute, Rich and Wayne) have no prenatal health care provider of any kind. Limited access to prenatal care providers or specialists may have associations with higher low birth weight and infant mortality rates. (See Chapters 4 and 5 for low birth weight rates and infant mortality rates for local health departments in the state.) Women in rural communities may have to travel many miles to a provider and/or a hospital. Some people in Utah's rural communities live more than 30 miles from a prenatal provider (Figure 3.13).

Figure 3.12 Ratio Distributions of Prenatal Care Providers to Women 15-44 years Rural Utah, 1996

Figure 3.13 Isochrone Mapping of 30-Minute Distances Women Travel in Rural Counties to Visit Health Care Providers: Utah, 1995

The majority of counties (25 of 29) in the state have some kind of prenatal care provider, such as a general practitioner, family practitioner, obstetrician, nurse practitioner or certified nurse midwife. However, more than half of the counties (16 out of 29) are without any obstetrician-gynecologist (Figure 3.14). Of concern here is the potential lack of access to a specialty provider for management of high risk pregnancies. In the event of a high risk pregnancy, the local health care provider has to consult with a physician at an urban perinatal center or refer the pregnant woman for care and management to one of these centers in the state. There may be a need to strengthen consultative relationships to assure better access to consultation services for rural providers.

Third Party Payer

Most women in Utah have insurance coverage for prenatal care, if one assumes that third party payer (payer other than individual patient, such as a health insurance organization) reimbursement for delivery costs included payment for prenatal care as well. There has been a shift in third party payer source for women giving birth between 1992-1994, with increases in self-pay (not third party) and managed care and decreases in commercial and Medicaid (Figure 3.15).

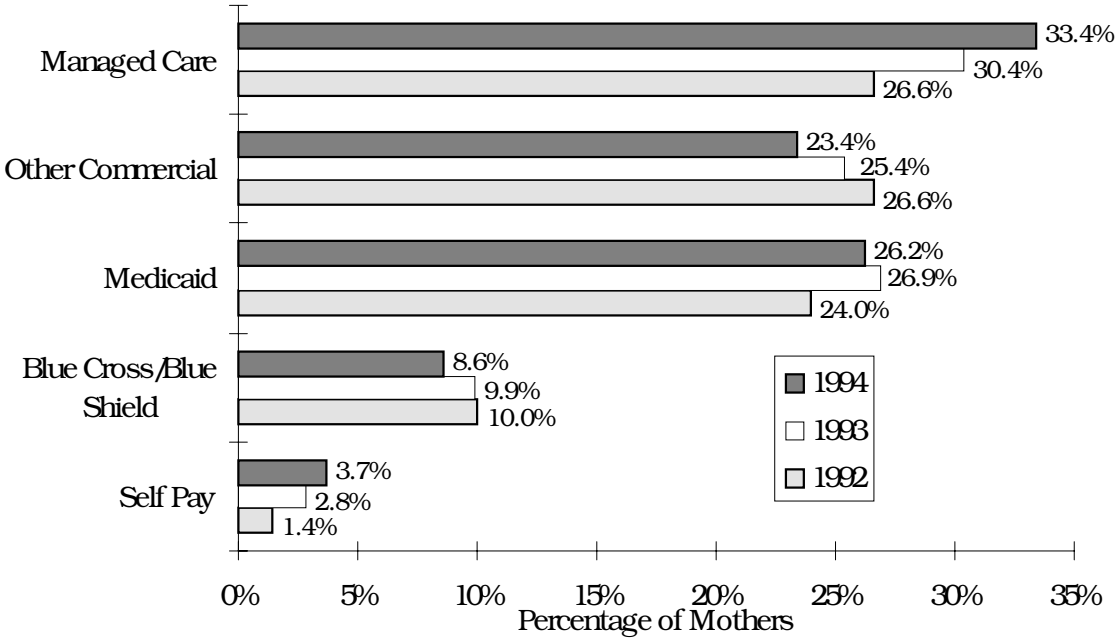
The increased percentage of self-pay hospitalizations indicate that more women are without a third party payer for prenatal care. Reasons may include:

- inability to purchase health insurance because it is not offered or it is too expensive;
- ineligibility for health coverage because the pregnancy is classified as an uncovered pre-existing condition, or because of presence of another pre-existing condition; or
- ineligibility for public assistance because working poor families have income levels higher than those allowed for eligibility for some programs, or because of residency status.

In 1988, Utah implemented the prenatal Medicaid program which allows women whose income levels ordinarily would be too high to qualify for Medicaid to apply for coverage for pregnancy-related care. Utah is one of 16 states that allow women meeting both residency and income (at or below 133% of the federal poverty level) requirements to be eligible for Medicaid funding for prenatal care. There are 34 other states that have adopted income eligibility levels higher than the 133% level. Those states allow more women to qualify for prenatal Medicaid programs. Pregnant women may apply for Presumptive Eligibility, a quick determination of probable eligibility for Medicaid funded prenatal care. Women with Presumptive Eligibility have access to prenatal care while awaiting their formal Medicaid eligibility approval or denial. Women on prenatal Medicaid qualify for continuous eligibility through the end of the second month after delivery. The newborn is continuously eligible throughout the first year of life. In Utah in 1994, Medicaid paid for 12,306, or 36% of all deliveries in the state. Of these, approximately 8,000 women were covered because of the higher income eligibility (133% of poverty) of the prenatal Medicaid program.

Figure 3.14 Rural Counties (Shaded) With No Obstetrician-Gynecologist: Utah, 1997

Figure 3.15 Maternity Hospitalizations by Primary Payer: Utah, 1992-1994



Note: Managed Care deliveries during 1992-1994 may include Medicaid clients and Medicaid deliveries may include managed care clients due to transition of Medicaid clients living in the "Wasatch Front" into managed care.
Source: Utah Hospital Discharge Public Query Internet Database, Office of Health Data Analysis, Utah Department of Health

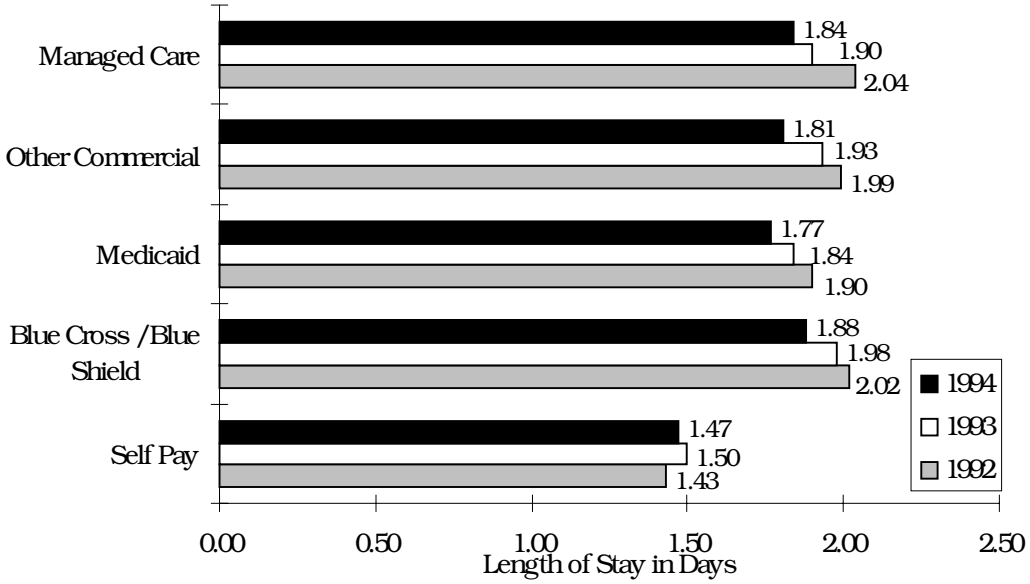
Individuals who live and work in Utah without documentation of citizenship or residency are not eligible for Medicaid prenatal care coverage, although they may qualify for Medicaid Emergency Medical Services for labor and delivery expenses only. Infants born to these women are U.S. citizens and therefore may be eligible for Medicaid coverage.

Delivery Care and Hospital Stays

The current trend toward shorter hospital stays after delivery has raised concern about the impact of this practice on the health and well-being of both mothers and infants. Utah is following the national trend of shorter hospital stays for maternity care (Figure 3.16). The length of hospital stays vary by payer type, with self-pay resulting in the shortest hospital stays followed by Medicaid, other commercial, managed care and Blue Cross / Blue Shield as primary payers.

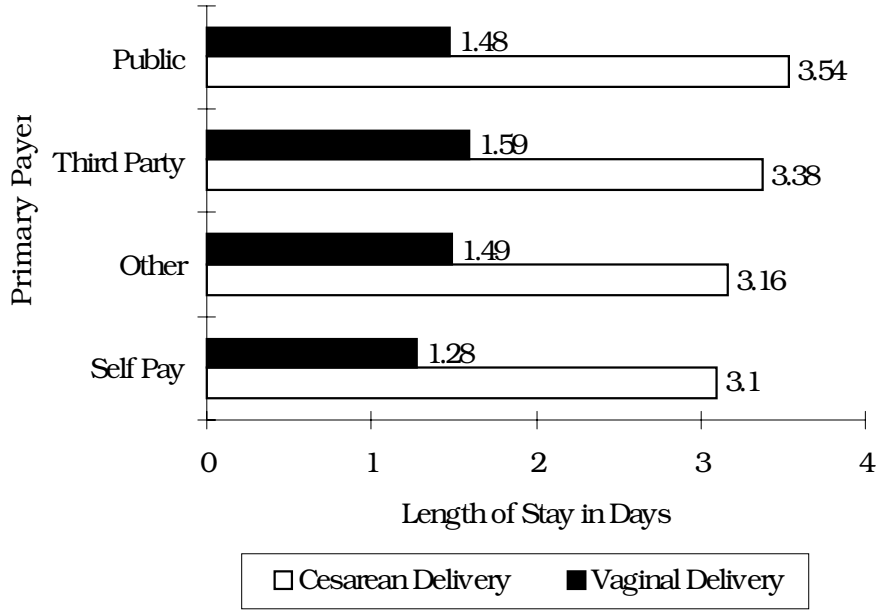
Utah hospital discharge data for 1992-1994 showed the overall average length of stay for vaginal deliveries was 1.55 days versus 3.41 days for women delivering by cesarean section. Length of stay differed by type of payer and delivery method (Figure 3.17). In 1996, the U.S. Congress passed legislation to prohibit insurance requirements from limiting a woman's post-partum hospital stay to 24 hours or less. Monitoring of hospital discharge data needs to continue to track length of stays.

Figure 3.16 Average Length of Stay for Maternity Hospitalizations by Primary Payer: Utah, 1992-1994



Source: Utah Hospital Discharge Public Query Internet Database, Office of Health Data Analysis, Utah Department of Health

Figure 3.17 Comparison of Length of Stay for Vaginal Versus Cesarean Section Delivery by Payer: Utah, 1994



Source: Utah Hospital Discharge Public Query Internet Database, Office of Health Data Analysis, Utah Department of Health

References

1. Wilcox LS and Marks JS, eds. From data to action, CDC's public health surveillance for women, infants, and children. U.S. Department of Health and Human Services. Public Health Service. Centers for Disease Control and Prevention. 1994.

2. Weinberg CR, Wilcox AJ, Baird DD. Reduced fecundity in women with prenatal exposure to cigarette smoking. American Journal of Epidemiology. 1989.129:1072-78.

3. Laurent SL, Thompson SJ, Addy C. et al. An epidemiological study of smoking and primary infertility in women. Fertility-Sterility 1992. 57:565-72.

4. Suonio S, Saarikoski, S, Kauhauen O. et al. Smoking does affect fecundity. European Journal of Obstetrics Gynecological Reproductive Biology. 1990.34:89-95.

5. Guidelines for women's health care. American College of Obstetricians and Gynecologists. Washington D.C.: ACOG. 1996.

6. Assisted conception in Australia and New Zealand 1990. Australian Institute of Health and Welfare National Perinatal Statistics Unit. Sydney, ISN 1038-7234, 1992.

7. Brown S and Eisenberg L. The best intentions: unintended pregnancy and the well-being of children and families. Washington D.C.: National Academy Press, 1995.

8. Surveillance of family planning services at title X clinics and characteristics of women receiving these services, 1991. U.S. Department of Health and Human Services. Morbidity and Mortality Weekly 1995. 44: S-2:21.

9. Trussell J, Levesque JA, Koenig JD, et al. The economic value of contraception: a comparison of 15 methods. American Journal of Public Health, 1995. 85:494-503.

10. Contraception counts state-by-state information. Alan Guttmacher Institute. New York. 1997.

11. Rawlings J, Rawlings V, and Read JA. Prevalence of low birth weight and preterm delivery in relation to the interval between pregnancies among white and black women. New England Journal of Medicine. 1995. 2: 69-74.

12. Utah Birth Certificate Database. Bureau of Vital Statistics. Office of Public Health Data. Utah Department of Health.

13. Abortion surveillance - United States, 1992. U.S. Department of Health and Human Services. Morbidity and Mortality Weekly Report. 1996. 45:SS-3.

14. Induced abortions in Utah. Bureau of Vital Records. Office of Public Health Data. Utah Department of Health.

15. CDC, Monthly Vital Statistics Report, Vol. 45, No. 3 (S) 2, Table 5, October 4, 1996.

16. Buchi K, Varner M, Chase R. Prevalence of substance abuse among pregnant women in Utah. Obstetrics and Gynecology. 1993:81: 239-242.

17. Buchi K and Varner M. Prenatal substance use in a western urban community. Western Journal of Medicine. 1994.161: 483-486.

18. Herbener A. and Buchi K. Prenatal drug prevalence by meconium analysis in a white population. Archives of Pediatric Adolescent Medicine. 1994.148:59.

19. Infant Health Improving. Children's Defense Fund Reports, 1996. 17:10.